LIBRARY

JUL 13 1934

The OIL AND GAS JOURNAL

RODUCING

40

EFINING

ATURAL
ASOLINE

IPELINE

ARKETING

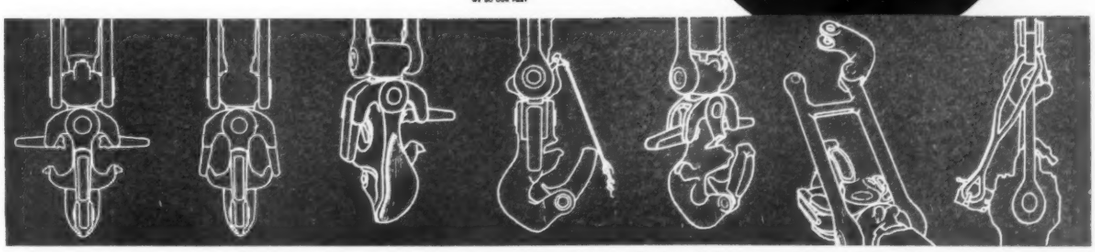
WHY NOT MODERNIZE YOUR DRILLING WITH THIS SAFE, FAST HOOK?

THE "150" Triplex Hook is designed for wells of average depth, where 150-ton capacity is sufficient. The "300" has a recommended load capacity of 300 tons, and is safe for the longest strings of drill pipe or casing in the deepest wells ever drilled. A safety factor of three, based upon elastic limit of the material, means that the recommended load may be carried on the lower, swivel-bail hook, or upon the two elevator-link hooks.

STARTING with a careful study of oil field requirements, BJ Engineers were free to develop a drilling hook which is perfectly balanced, convenient to operate, and which possesses greater strength than is possible in an open type hook of equal dimensions.

Proper distribution of the metal, combined with built-in safety features, have resulted in what is virtually a C-link —being a radical departure from open type hooks whose cumbersome, off-center design is an outgrowth of the old-fashioned crane hook.

BJ TRIPLEX HOOKS



Locking-arms open, ready for inserting the elevator links.

A heavy, overhanging metal section prevents links from "jumping" the hook.

This concave back guides the hook along the pipe close to the derrick man.

The body may be locked in any one of four positions while drilling.

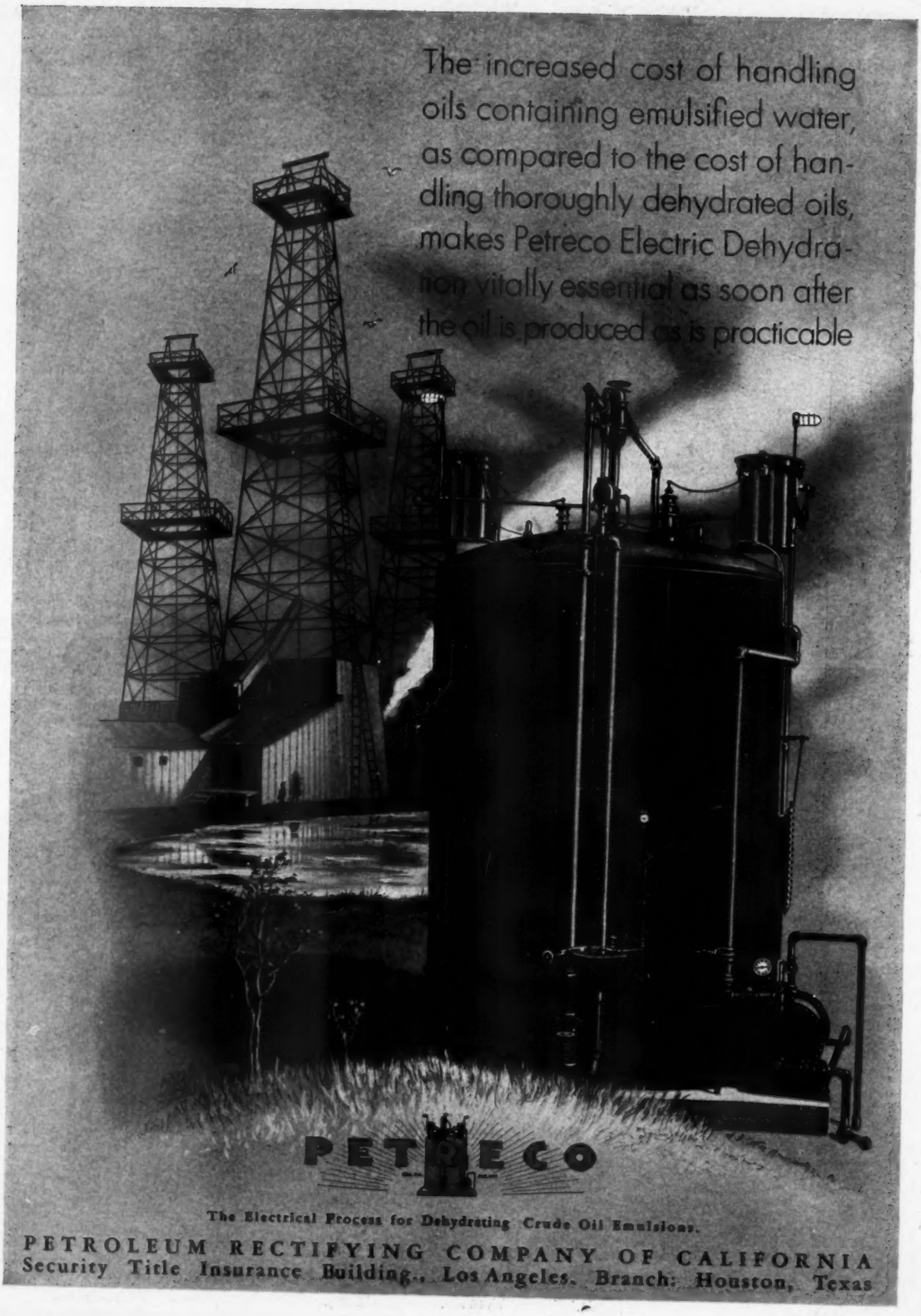
The lower locking arm makes it easy to pick up the swivel bail.

Only one bolt need be removed for connecting to traveling block becket.

Separate hooks for the swivel bail, and each elevator link, eliminate off-center strains.

BYRON JACKSON CO.

FORTH WORTH • LOS ANGELES • NEW YORK


The increased cost of handling oils containing emulsified water, as compared to the cost of handling thoroughly dehydrated oils, makes Petreco Electric Dehydration vitally essential as soon after the oil is produced as is practicable
PETRECO

The Electrical Process for Dehydrating Crude Oil Emulsions.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA
Security Title Insurance Building., Los Angeles. Branch: Houston, Texas

THE OIL AND GAS JOURNAL

Volume 33
Number 8

July 12, 1934

SUBSCRIPTION RATES: Domestic, 1 year, $6; 6 months, $3. Canadian and foreign, 1 year, $7; 6 months, $3.50. All subscriptions payable in advance. When extra copies of special issues are available they are reserved for subscribers' needs and may be bought by subscribers at 50 cents each

SPECIAL ARTICLES

Labor Troubles in East Texas and California Slow Up Drilling and Refined Distribution ---- 7
By JAMES McINTYRE

Administrator Ickes Reviews First Year of Code ---- 8

Bureau of Labor Statistics to Study Oil Industry ---- 8

Department of Justice and Oil Administration in Campaign Against Violators ---- 9
By HUGH D. MALLON

Congressional Committee Visits Tulsa ---- 9

Treating and Conditioning Mud Solves Many Troubles 10
By NEIL WILLIAMS

Pipe Bending Developed Into Exact Mechanical Achievement ---- 11
By L. G. E. BIGNELL

Plan to Allocate Gasoline Output to Value of Products ---- 12-13

All Oklahoma City Field Wells Nearing Cleanout and Mechanical Production ---- 14
By L. G. E. BIGNELL

July Refinery Runs Established at Conservative Level 16
By W. T. ZIEGENHAIN

News From Foreign Lands ---- 18

Much Better Off (Editorial) ---- 20

With Open Mind (Editorial) ---- 20

Open Type Housing Minimizes Explosion Hazards ---- 27
By NEIL WILLIAMS

Standard Vacuum to Extend Refinery and Pipe Line in Sumatra ---- 32

Drake Day Celebration Program ---- 32

Dubbs Reforming Unit Converted to Normal Cracking ---- 34
By L. D. FULTON and P. M. ROBINSON

Decreasing Reserves and Increasing Prices Seen ---- 37
By CARROLL H. WEGEMANN

Refiners of Pennsylvania Grade Continue Plant Improvements ---- 40
By R. C. CONINE

Bureau of Mines Report for May ---- 42

Administrator's Report on Crude Stocks ---- 68

Field Problems From Readers ---- 76
Edited by T. F. SMILEY

FIELD OPERATIONS

Late Fields ---- 32

West and North Texas ---- 44
By L. E. BREDBERG

East Texas ---- 45
By L. E. BREDBERG

Southwest Texas ---- 53

Kansas ---- 57
By JAMES McINTYRE

Oklahoma ---- 58
By JAMES McINTYRE

Gulf Coast ---- 61-62
By A. C. EASTERWOOD

California ---- 64
By L. P. STOCKMAN

North Louisiana-Arkansas, Mississippi ---- 67
By J. R. CRUMPTON

Eastern Fields ---- 68
By SPECIAL CORRESPONDENT

Rocky Mountain Area ---- 69
By TOLBERT R. INGRAM

Canada ---- 69
By VICTOR LAURISTON

Michigan ---- 72
By PAUL A. ELLIOTT

Central West ---- 72
By GEORGE A. WHITNEY

REFINING AND MARKETING

Operation of Gasoline Purchasing Plan Creates More Cheerful Market in Group 3 District ---- 22
By T. F. SMILEY

New York Market ---- 23
By C. O. WILLSON

A.P.I. Refinery Report ---- 23

Refining and Crude Prices ---- 24-25

Tank Wagon Markets ---- 26

News for Petroleum Refiners ---- 28

Natural Gasoline Manufacture ---- 30

Chicago Market ---- 33

Technical Questions Answered ---- 75
By C. K. FRANCIS, Ph. D.

GENERAL DEPARTMENTS

Oil Man's Calendar ---- 32

Natural Gas Developments ---- 77

Do You Remember? ---- 78

Personal Paragraphs ---- 78-79

Market Record of Oil Securities ---- 80

New and Improved Equipment ---- 85

Classified Advertising ---- 86-87

Index to Advertisers ---- 88

Refinery Section Starts on Page 22

Branch Editorial Offices

WASHINGTON	CHICAGO	DENVER	FORT WORTH	HOUSTON	LOS ANGELES	PITTSBURGH
Hugh D. Mallon 808 Investment Bldg.	616 S. Michigan Ave.	Tolbert R. Ingram State Office Bldg.	L. E. Bredberg Petroleum Bldg.	Neil Williams 809-10 Sterling Bldg.	L. P. Stockman Union Oil Bldg.	P. O. Box 1345

MUSKEGON	SHREVEPORT	TOLEDO	NEW YORK	OIL CITY	CHATHAM, ONT.
Paul A. Elliott Chronicle Bldg.	J. R. Crumpton 540 Ricou Brewster Bldg.	George A. Whitney Box 98, Main P.O.	C. O. Willson 415 Lexington Ave.	R. C. Conine Oil City Derrick	Victor Lauriston 85 Stanley Ave.

Branch Advertising Offices

NEW YORK	CLEVELAND	CHICAGO	LOS ANGELES	HOUSTON
C. L. Cain 415 Lexington Ave.	Howard Markt 802 Leader Bldg.	C. R. Farmer 616 S. Michigan Ave.	J. H. Tinkham 2941 Raymond Ave.	Paul T. Putnam 809-10 Sterling Bldg.

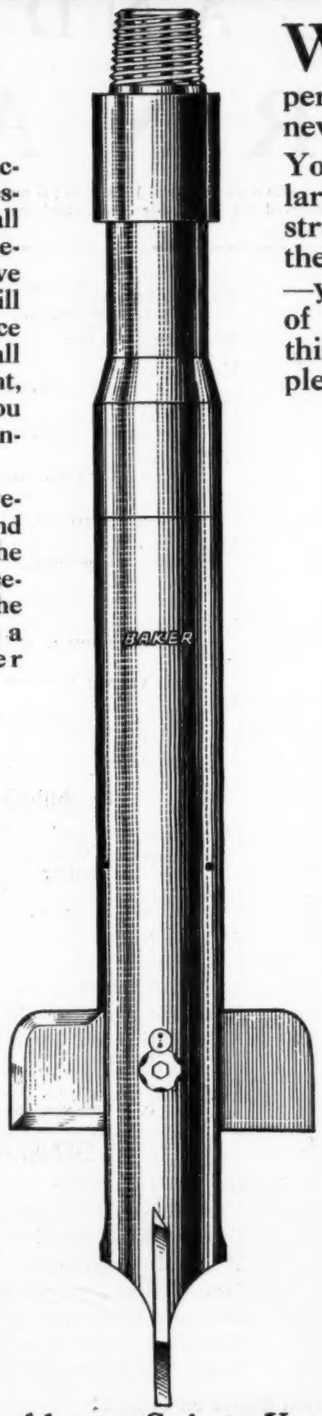
Copyright, 1934, by The Petroleum Publishing Co.

A NEW TECHNIQUE IN DRILLING

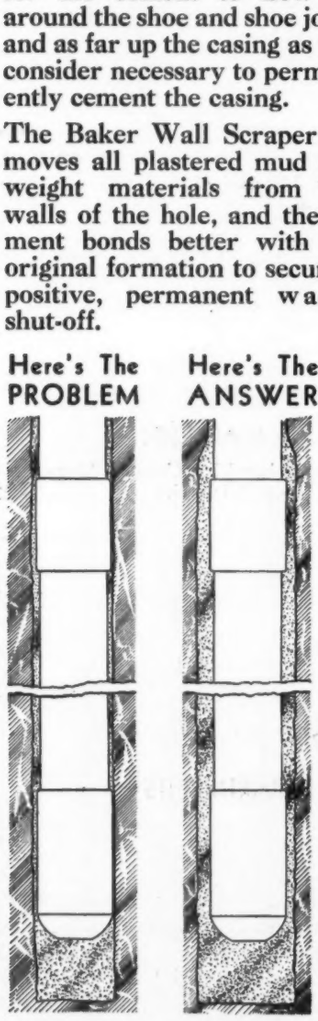
HOW IT SOLVES THE "TIGHT HOLE" PROBLEM

When a tight hole makes success of a cementing job questionable, use the Baker Wall Scraper to enlarge the diameter any desired distance above the cementing point. You will then have sufficient clearance for the cement to flow all around the shoe and shoe joint, and as far up the casing as you consider necessary to permanently cement the casing.

The Baker Wall Scraper removes all plastered mud and weight materials from the walls of the hole, and the cement bonds better with the original formation to secure a positive, permanent water shut-off.



Here's The PROBLEM **Here's The ANSWER**



Casing contacts formation and prevents proper distribution of cement—results are questionable.

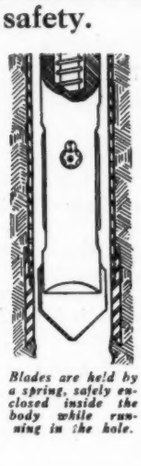
Casing centered in hole which has been enlarged with Baker Wall Scraper—good cementing assured.

Always Safe to Use —All Ways!

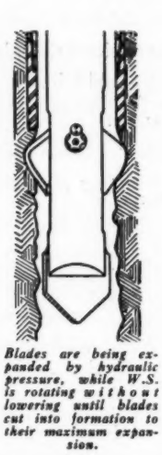
Why not make your drilling easier, safer and less expensive with a Baker Wall Scraper? Write today for free illustrated bulletin which describes many uses by other operators and gives complete specifications and prices

WHEN you run a Baker Wall Scraper down the hole, you are ready safely to perform operations never before possible—a new drilling technique is yours.

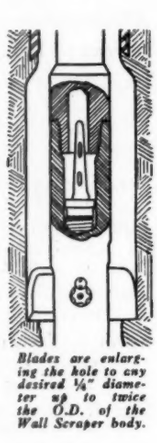
You can bring in the well easier—you can enlarge the hole to run larger liners—you can straighten crooked holes—you can drill out the cement from a previous unsuccessful job—you can scrape clean and increase the area of the oil sand—and you can do all these things economically, rapidly and with complete safety.



Blades are held by a spring, safely enclosed inside the body while running in the hole.



Blades are being expanded by hydraulic pressure, while W.S. is rotating without lowering until blades cut into formation to their maximum expansion.



Blades are enlarging the hole to any desired ⅛" diameter up to twice the O.D. of the Wall Scraper body.

IT HAS UNEQUALLED EXPANSION

The strong alloy steel blades expand to cut a larger diameter than is possible with any underreamer. For example, the No. 6 Baker Wall Scraper, which runs-in through 9⅝" casing, will enlarge the hole to a 19" diameter; the No. 3 Wall Scraper runs-in through 7" casing and cuts to a diameter of 11".

IT HAS PLENTY OF CLEARANCE

You need never be concerned about clearance with a Baker Wall Scraper. The No. 3 Wall Scraper has a maximum body O.D. of 4½" designed to run through 6⅝" casing; the No. 6 size is 7¾" O.D. and safely runs through 9⅝" casing.

IT COMES SAFELY OUT OF THE HOLE

When the "scraping" operation is completed, and you start out of the hole, the blades *close downward* into the body and are held in this enclosed position by a spring. Even if a rock, or a piece of metal might wedge to prevent a blade from closing, the shearing action which results when the top of the blade strikes against the casing shoe, either dislodges or cuts through any obstruction and the blades collapse inside the body of the Wall Scraper.

BAKER OIL TOOLS, INC.

P. O. BOX 609 HUNTINGTON PARK, CALIFORNIA

COALINGA ▲ TAFT ▲ HOUSTON ▲ OKLAHOMA CITY ▲ TULSA ▲ NEW YORK

NRA

BAKER ROTARY WALL SCRAPER

Labor Troubles in East Texas and California Slow Up Drilling and Refined Oil Distribution

By JAMES McINTYRE

THE rig builders' strike in the East Texas area is slowing up new work in that big field. The New Birmingham area in Cherokee County, received a setback when a test just south of Rusk found a salt water sand at 4,995 feet. The discovery well of Wood and others shows such a decrease in pressure that it had to be "rocked" to make it flow when the well was tubed.

An otherwise favorable general situation on the Pacific Coast has received a setback because of a longshoremen's strike in San Francisco which makes it difficult, where it is not impossible, for marketers to make deliveries of gasoline to service stations. The bad situation not only prevails in the San Francisco district, but extends into the state of Washington. When service station stocks are used up, which will be in a few days, many automobiles and trucks may have to be kept in the garages unless the strike situation eases off.

In the West Texas area the Skelly Oil Co. announces it will drill an Ordivician test in Section 33, Block 8, University land in Southeastern Reagan County. It will be carried to 8,700 feet if necessary. Other companies have an interest with the Skelly organization in the test.

There was a lull in the North Louisiana-Arkansas district in the past week, and a number of tests expected to show results were delayed in their progress. Five dry holes comprised the sole record of the week's work in North Louisiana, the production of which is steadily falling indicating the necessity of finding new production for local consumption. There are two active drilling wells in Alabama, one in Clarke County and the other in Houston County.

In the Gulf Coast region the Bosco Pool in Acadia Parish, Louisiana, was extended a half-mile by an 800-bbl. well and a new deep sand was discovered in the New Iberia Pool, in Iberia Parish in Louisiana. The production of the Coastal Louisiana area hit the highest mark in its history, last week averaging 72,355 bbls. per day.

Eleven Michigan pools were credited with an aggregate of 180,436 bbls., per day, in potential production, the Porter Pool in Midland County leading with a rated potential of 166,703 bbls.

In Oklahoma the Wilzetta Pool in Lincoln County and the Langston Pool in Logan County were extended one location, the two completions being better producers than the discovery wells. A new deep gas zone in Hughes County was uncovered in Cromwell sand. The deep test in Caddo County was bottomed at 11,230 feet, with the drill stem stuck at the bottom and the owners will attempt to shoot it loose.

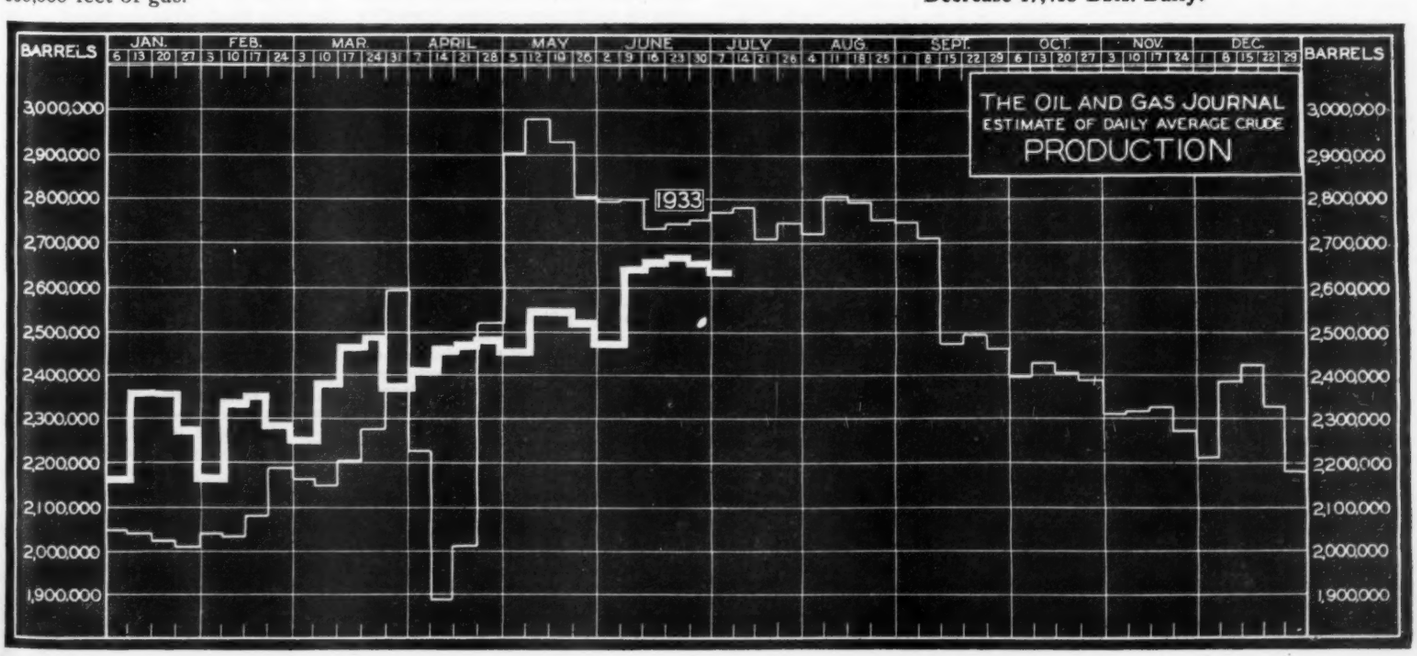
An outside well in the northwestern part of the Hobbs district in Lea County, New Mexico, came in at 9,736 bbls. per day with 12,000,000-feet of gas.

Crude Oil Production in the United States

Estimated daily average production for the week ending July 7, and a comparison with previous week and the Federal allowable follow:

	July 7	Federal allowable in July	June 30
Oklahoma—			
Oklahoma City	178,590	.....	177,800
Seminole-St. Louis	89,380	.....	101,251
Remainder of State	232,465	.....	236,039
Total Oklahoma	500,435	489,500	515,090
East Texas—			
Lathrop	242,960	.....	245,750
Kilgore	176,590	.....	178,640
Joiner	157,560	.....	159,360
Total East Texas	577,110	.....	583,750
West Texas	134,792	.....	138,465
North Central Texas	91,414	.....	91,903
Texas Panhandle	63,155	.....	58,911
East Central Texas	54,744	.....	54,887
Gulf Coast—Texas	170,955	.....	170,955
Southwest Texas	48,157	.....	49,204
Total State of Texas	1,140,327	1,042,100	1,148,075
Kansas	130,545	134,500	131,330
North Louisiana	25,020	.....	25,240
Gulf Coast—Louisiana	72,355	.....	67,545
Total Louisiana	97,375	88,900	92,785
Arkansas	31,880	33,000	31,535
Eastern Fields (except Michigan)	104,500	108,900	102,000
Michigan	31,677	33,200	29,247
Rocky Mountain area	96,250	90,800	96,840
California—			
Santa Fe Springs	42,750	.....	39,500
Long Beach	69,000	.....	67,800
Mountain View	7,900	.....	13,400
Elwood	10,850	.....	10,200
Kettleman Hills	54,500	.....	08,000
Remainder of State	327,000	.....	316,600
Total California	512,000	509,400	515,500
Total United States	2,644,989	2,530,300	2,662,402

Decrease 17,413 Bbls. Daily.



Administrator Ickes Reviews First Year of Code; Confident of Ultimately Gaining Objective

WASHINGTON, D. C., July 11.—A steady march toward economic stability for the oil industry and the true conservation of America's petroleum riches was reviewed today by Secretary of the Interior Harold L. Ickes, oil administrator, summing up the achievements of the oil administration during its first year. Administrator Ickes coupled with the summation of accomplishments an expression of optimism for the future and the hope that the producing states and the industry would continue to co-operate in furthering the general program for national and individual betterment.

"Just a year ago today, President Roosevelt issued Executive Order 6199 under Section (C) of the National Industrial Recovery Act prohibiting the shipment in interstate commerce of illegally produced or refined oil," Administrator Ickes said. "That order was the foundation stone of the oil administration and was subsequently bulwarked by the oil code, which was approved last August. The code was formulated by the industry and the president in a mutual desire to restore prosperity, provide employment, increase purchasing power, and utilize wisely our oil reserves so as to prevent the profligate wasting of one of our most valuable resources. Section 9 (C) could not alone accomplish these desirable objectives. It dealt specifically with the movement of illegal or 'hot' oil.

"The President did me the honor of delegating to me the powers vested in him to administer Section 9 (C) and the code. Pursuant to this mandate, we have developed our program to the best of our ability under the limitations imposed on us by developments, in the interests of the national welfare and all branches and operators in the industry.

"When we began our task, I do not think that any of us realized the tremendous difficulties and complicated problems with which we would have to deal. We have made some mistakes, but these have been corrected as they became apparent. We feel that we have, with the co-operation of the majority of the industry and of the oil producing states, established a record of which we may all be proud. We have not reached our goal, but we have made considerable progress.

"To assist and advise me, I set up the Petroleum Administrative Board, the Petroleum Labor Policy Board, and the Oil Enforcement Unit of the Division of Investigations of the Department of the Interior. Each has been constantly at work to strengthen and improve our program and to enforce the methods provided for carrying it out. The code provided for the Planning and Coordination Committee to represent the industry, which has co-operated with us in every way possible to further our joint aims. They are self-supporting agencies, with their expenses paid by a tax upon the industry, in return for the direct benefits from their activities.

Toward Economic Destruction

"When the President issued the hot oil order last July 11, crude oil was selling for but a small part of its actual worth and for less than the cost of production. There was excessive overproduction and absolute waste. Wages were low, with thousands of competent persons, eager for work and trained for it, vainly seeking jobs. The industry as a whole recognized that in the chaos then prevailing, it was moving swiftly toward economic destruction. Low prices, resulting from overproduction, effectively blotted out hope for improvement. The states were unable to cope with conditions because no one state had the authority to supervise what went on in another commonwealth.

"We issued our regulations under 9 (C) to prevent the shipment of hot oil into the national market as the first step toward removing the economic blight of a supply far exceeding the demand. The oil code provided broader and more effective machinery for meeting this situation. The most pressing problem before us was obviously a reduction of production, which then averaged approximately 2,800,000 bbls. daily, as compared with a fair demand of about 2,400,000 bbls. The immediate result of our initial production allocation of 2,409,000 bbls. daily, issued September 2, 1933, was most gratifying. Crude oil prices rose from less than the actual cost of production, to 90 cents and $1.

"The average price of crude during May and early June, 1933, shortly before the code became effective, was 32 cents a barrel. Three barrels had to be sold to bring a dollar. Under the code, approximately 750,000,000 bbls. have been produced, to date, selling for $750,000,000 in round figures. The same amount of oil at the pre-code prices would have brought in only $250,000,000. The same cash return prior to the code would have required the production of 2,250,000,000 bbls.—about three times the market demand. A half-billion dollars more for their oil has been received directly by the 18 producing states and they have saved millions of barrels for future sales. More money for less oil should encourage conservation. Farmers and other small owners of land on which the wells stood, profited from royalty returns, handsomely increased by higher but fair prices.

"So that the domestic producer would not, alone, carry the whole load of reducing the supply, imports and withdrawals from storage have been restricted by the code. We consider this procedure entirely justified as a matter of fairness. To assist in preventing a repetition of the era of overproduction, a part of our program has been the regulation of the development of 239 newly discovered fields. We have done this along the lines of sound conservation and economics. New fields are required to produce in accordance with demand requirements, to avoid wasting gas pressure and oil, and their production must be put to beneficial use.

Re-employment Gain

"The hours of work were reduced sharply by the code, but total wages for the shorter work week were maintained at levels comparable to amounts paid for the longer week. Over and above this betterment of conditions, the Planning and Coordination Committee has advised us that it estimates very roughly that jobs have been created for upward of 100,000 persons previously unemployed. The committee also informs us that the labor provisions of the code and the increased employment have increased the industry's total pay roll approximately $150,000,000. Neither of these figures is exact but should be taken as an indication of the progress toward increasing the purchasing power of the nation.

"Gasoline prices at retail have been slightly increased by the code provisions, averaging from one-half to 1 cent a gallon. The Federal Trade Commission has reported that the increase represents approximately $160,000,000 a year. We have been criticized, and we feel unfairly so, because of this increase. The fundamental purpose of the National Industrial Recovery Act was the restoration of purchasing power by increasing wages and employment, of necessity providing that business should earn sufficient to meet these increased costs. Gasoline prices were ruinously low when the code went into effect and literally tens of thousands of gasoline stations faced immediate extinction. These stations have been kept open by the effects of the code. The prices are still well below 1926 levels. It appears to us that no fair accusation of placing an undue burden on the consumer could be lodged against us. The money which has gone into the oil states and to the oil worker is redistributed so that these benefits are shared indirectly by many of the consumers. This is particularly true of the business men in the producing areas and the merchants whose trade and profits are increased by what the refinery and filling station employe spends. We believe that the industry is justly entitled to realize the cost of operations, but on the other hand, we do not intend to permit the consumer to be victimized by any exorbitant prices.

"These are material achievements easily understood. One of our major accomplishments has been the preservation of the thousands of stripper wells scattered through Pennsylvania, New York, Ohio, West Virginia, Kentucky, Kansas, Arkansas, Louisiana, as well as those in the flush producing states of Texas, Oklahoma and California. The increase in the price of crude oil has made it possible for these wells to withstand the lower-cost production competition of oil from the flush fields. There are hundreds of millions of barrels of crude in the ground below the 300,000-odd stripper wells. If these wells are forced to stop producing, they will be destroyed. The reserves under them will be lost. Under existing transportation methods, America must depend too heavily upon petroleum reserves to imperil our supply of the future by the wanton destruction of these wells.

In Refining Branch

"As deplorable conditions and low prices developed in the refining branch of the industry, the centerpiece of oil, we took adequate steps to meet them. Provisions were made to regulate gasoline production in accordance with market demand, and to prevent the accumulation of

(Continued on Page 49)

Bureau of Labor Statistics Starting Study of Conditions in Petroleum Industry

WASHINGTON, D. C., July 9.—The Bureau of Labor Statistics of the U. S. Department of Labor is launching about the middle of July a comprehensive study of wages, hours and working conditions in the petroleum industry on a nation-wide basis. This survey will cover all parts of the industry, namely oil wells (drilling and production), pipe lines, refineries, bulk plants and filling stations.

The study is being undertaken in response to a request of and in co-operation with the oil administration and the Planning and Coordination Committee of the petroleum industry.

Both the oil administration and the Planning and Coordination Committee have asked the Bureau of Labor Statistics to make this survey on account of its reputation for impartiality as well as many years of experience in the gathering of such data. The information obtained from the various employers will be held strictly confidential, and only summary figures will be published in the final reports.

At the present time there is a great lack of data concerning labor in the industry. The new data will make available information that will be of help not only in the administration of the labor provisions of the code but also in the amicable adjustment of any labor disputes that may arise within the industry.

The survey will be conducted by a corps of field agents of the Bureau of Labor Statistics, who have had considerable experience in the gathering of similar information in other industries. They are now being put through a special course of training in the oil industry, the purpose of which is not only to acquaint them with the technological phases of the industry but also to drill them in the instructions and forms to be used in the study.

The purpose of the survey will be twofold: First, to determine the effect of the code upon employment and wages in the industry; and, second, to obtain a cross-section picture of the wage structure within the industry.

In order to establish what the effect of the code has been upon labor, the firms will be asked to give the number of employes and the full-time hours of work for every one of the several rates under each occupation. The periods covered will be as follows: May, 1929, when activity in the industry was at its height; May, 1933, a period preceding the adoption of the code; November, 1933, the period just following the adoption of the code; May, 1934; and the current month. This inquiry will cover time workers only, who constitute by far the great majority of the employes in the industry. Figures will also be obtained of the total employment, payrolls and man hours covering all the workers on those dates. This part of the survey will include all of the large establishments and a representative sample of the smaller ones.

The other part of the survey will endeavor to obtain for a representative sample of the industry a cross-section of the wage structure, covering such facts as occupational descriptions, sex, color, age and length of service (if available), average actual earnings per hour, full-time and actual hours worked, etc. This will be supplemented by general information concerning employment policies, methods of wage payment, working conditions, etc. This part of the study will cover all the workers in the plant.

The study will be limited to those workers who come within the scope of the labor provisions of the code, thus excluding such persons as executives, supervisors, administrative officers, salesmen, professional employes, etc. It will include both clerical and manual employes.

The field agents of the Bureau of Labor Statistics, in addition to their regular credentials, will be provided with letters from the Planning and Coordination Committee of the Industry. The indications are that the firms will co-operate in every way possible, thus expediting the work and reducing the cost of the survey. The field work is to be finished within the next three months, and the final report will probably be available at the close of the present year.

Department of Justice and Oil Administration Join in Campaign Against Code Violators

By HUGH D. MALLON
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., July 9.—An arrangement between the Departments of Justice and Interior whereby the agencies of both departments would join in enforcing the oil code was announced by Secretary Ickes, oil administrator. This agreement has the approval of Attorney General Cummings and it is expected to result in expediting enforcement activities.

Prosecutions of violators, particularly operators who refuse to abide by the marketing provisions of the code, will be actively conducted in the courts by the United States district attorneys, assisted by investigators, attorneys and technical experts of the oil administration in gathering data for action as well as in the litigation where possible.

"I feel that the greater facilities of the Department of Justice, which are located throughout the entire country, will enable us to expedite prosecution where necessary," Administrator Ickes said.

"Our agreement provides the necessary machinery through which we may move in any area to enforce the provisions of the code where the evidence justifies going into court without requiring the establishment of an extensive legal division in the oil administration. The agencies of the oil administration will continue their efforts to obtain voluntary compliance through discussions and negotiations with persons in the industry before resorting to legal proceedings.

"Our investigating and technical staffs will co-operate in bringing violations to the attention of the district attorneys and in obtaining or preparing evidence.

"The Department of Justice is authorizing the district attorneys to proceed with prosecutions where they appear to be justified. This will permit the taking of steps promptly to bring violators before the courts for punishment."

Amos L. Beaty, chairman of the Planning and Coordination Committee, in commenting on the subject of prosecutions for code violations under this new agreement, said:

"The Department of Justice is now ready to proceed with a large list of cases. We shall see whether operators, be they producers, refiners or marketers, can violate this code with impunity. It is a showdown, and the legitimate operator who has complied with the code only to see his business go to the chiseler, can take heart again. I hope all constructive forces in the industry will quickly rally to the support of this movement. It offers something real. Begging compliance has lost its charm."

East Texas Contracts

The first contracts for the purchase of surplus gasoline made from East Texas "hot oil" have been approved by Administrator Ickes. Refiners selling the gasoline agreed in their contracts to refuse to process any hot oil.

The first contracts covered 12,200 bbls. of the surplus gasoline. Administrator Ickes has been advised informally from Texas that negotiations to obtain agreements from about 75 per cent of the refiners are nearing successful completion. Estimates of the amount of surplus gasoline involved, given to the oil administration by the industry, range from 500 to 700 tank carloads. A tank car averages 10,000 gallons or approximately 200 bbls. Contracts covering the individual purchases are being forwarded from Texas to the oil administration daily for consideration. Negotiations are under way to obtain the balance.

To assist in enforcing the contract provisions against processing any hot oil, each contract holds back 25 per cent of the payment price, which will not be paid over if any hot oil is refined.

The first contracts called for sale of the surplus gasoline at an average price of 3.5 cents a gallon.

The companies and amounts involved in the first contracts approved by Administrator Ickes follow:

Seller and buyer—	Sold (bbls.)
Lotus Ref. Co. to Magnolia Pet. Co...	3,000
E. Texas Ref. Co. to Standard (Ky.).	1,000
Trio Ref. Co. to Sinclair Ref. Co....	2,000
Arrow Ref. & Prod. Co. to Phillips..	3,200
Texas Oil Products Co. to Magnolia..	3,000

Board of Review Appeals

The board of review convened in Washington on Thursday to hear appeals from refinery allocations. Eleven cases were on the docket and were heard by the board. Members present were Messrs. Boyd, chairman; Watson, Buerger and McLaughlin. P. A. Miskell was unable to attend.

Of the 11 appeals heard, two were withdrawn by the appellants before the hearings, two decisions have not been handed down, three were denied and four were allowed, either in whole or in part. Only four personal appearances were entered.

The list of appeals and the decisions follow:

Appellant—	Refinery district No.	July allocations (bbls.)	Increase requested (bbls.)	Result
The Texas Co.	4	203,940	26,716	Withdrawn
The Texas Co.	5-B	1,424,600	145,606	Denied
Standard Oil Co. (Ohio)	3	310,471	56,529	*20,000
Standard Oil Co. (Ohio)	2	271,000	34,000	*20,000
East Texas Refining Co.	5-A	60,236	59,764	Denied
Globe Oil & Refining Co.	3	141,000	44,000	No decision
The Texas Co.	3	537,402	76,735	Denied
Pure Oil Co.	2	190,000	15,000	*15,000
Pure Oil Co.	3	148,899	11,101	Withdrawn
Pure Oil Co.	5-B	390,200	29,800	*29,800
Roosevelt Oil Co.	3	20,000	14,000	No decision

*Represents amount of increase granted.

Only one appeal to the Planning and Coordination Committee from the rulings of the board of review on the June gasoline allocations has been filed. The Pan American Refining Co. filed this and the committee will consider the case Thursday, July 12.

It is contended by the appellant that certain gasoline manufactured for the appellant by the Humble Oil & Refining Co. under a processing contract between the two companies should be allocated to the Pan American Refining Corp. They claim that under this contract, even though the gasoline is processed by the Humble company, no title passes to that company. The gasoline is manufactured from crude oil bought and transported to the refinery by the Pan American.

The position taken by the board, backed

(Continued on Page 49)

House Investigating Committee Visits Tulsa; Hearings Are to Be Held During Fall

By L. G. E. BIGNELL
Petroleum Engineering Editor

By coincidence rather than definite planning, Henry T. Rainey, Illinois, Speaker of the House of Representatives and four of the five members of the subcommittee of the Committee on Interstate and Foreign Commerce to investigate the petroleum industry, met in Tulsa on Monday and were guests at a luncheon tendered by the Kiwanis Club and Tulsa Chamber of Commerce. E. W. Marland, Ponca City, Democrat candidate for governor of Oklahoma, together with many other notables in political and civil affairs of the State, were also present.

The subcommittee making this trip of personal inspection is composed of Judge William P. Cole, Jr. (D.), Maryland, chairman; Samuel B. Pettengill (D.), Indiana; Carl E. Mapes (R.), Michigan, and Charles A. Wolverton (R.), New Jersey. Edward A. Kelly, the fifth member of the committee (D.), from Illinois, was not with the party.

Secretary of the Interior Harold L. Ickes, oil administrator, designated E. B. Swanson, chief, Division of Petroleum Economics, U. S. Bureau of Mines, and J. Howard Marshall, assistant solicitor, Department of the Interior, Washington, D. C., to assist the investigating committee in whatever capacity possible. Representative Martin Dies, Orange, Tex., is counsel for the investigating committee.

This investigating committee is empowered under H. Res. 441, enacted June 14, and published on page 9, The Oil and Gas Journal, June 21, to take testimony of record and to submit a report to the next session of Congress to meet in January on all branches of the petroleum industry. The present trip is to acquaint the committee members with general conditions in the oil fields and started July 7 when Chairman Cole left Baltimore. The Tulsa stop is the first and from there the committee will proceed by automobile to Bartlesville, Okla., to visit the U. S. Bureau of Mines, experiment station.

The committee returns to Tulsa from Bartlesville and then to Oklahoma City, July 11, to meet with the members of the Oklahoma Corporation Commission and the proration umpires, also with oil men in that part of Oklahoma.

From Oklahoma City the trip will extend to Austin, Tex., to meet the members of the Railroad Commission of that State and then to Houston. From Houston the committee will proceed to Tyler to spend three days in the East Texas oil fields and then back to their respective homes.

Official Trip Later

It is planned, perhaps in September and certainly after the November elections, for the committee to make a rather extended trip to all of the principal centers of the oil industry in this country to take testimony of record from those persons it may decide to call before its sessions. Based upon this testimony and upon the results of the further investigations a report will be prepared and submitted recommending to Congress such actions as the committee deems right and proper. The committee is composed of three Democrats and two Republicans and Judge Cole in his brief talk to the luncheon group on Monday stated he hoped to be able to submit a unanimous report suggesting concrete legislation to cover the problems of the oil industry.

E. W. Marland in his talk following the introduction of the individual members of the committee present at the luncheon, said that he desired to state his opinions at that time because he did not believe that he would have further opportunity to talk with them.

Mr. Marland said he spoke as an oil man as well as a representative to Congress from Oklahoma and the prospective next governor of Oklahoma, and offered the committee his services in any capacity that would serve their interests. He stressed the importance of the petroleum industry to the nation and urged the committee to make a full and complete investigation before making report.

Mr. Marland stated that his personal views were that full Federal control of the petroleum industry would not correct its ills. He said that 40 years of experience in this industry, beginning in Pennsylvania and extending through West Virginia, Ohio, and then to the Mid-Continent and Mexico, had witnessed eight periods of overproduction, each followed by periods of oil shortage. In Mr. Marland's opinion Federal regulation now imposed will later be found a great burden to the industry when the tide turns and the industry desires to produce more oil.

Mr. Marland believes that Federal regulation should be limited strictly to the enforcement of equitable allotment of current demand between the several oil producing states and seeing that such regulation of the rate of production of each of the states be strictly enforced.

Beyond this allocation of current demand between the several states Mr. Marland believes that Federal regulations will prove irksome and within the next 18

(Continued on Page 49)

Treating and Conditioning Mud Proves Solution of Many Troubles Encountered in Drilling

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., July 9.—It is becoming more generally realized that one of the most important factors in rotary drilling is the kind of mud that goes into the hole and consequently increasing attention is being paid to this subject. In the past, poor walls and various hole and formation difficulties have cost the oil industry heavily, most of which now is being attributed to unsatisfactory drilling fluid. There is no estimate of the amount of production which has been given up or perhaps new fields left unopened because of premature abandonment of wells due to failure of operators to get through certain formations.

Until comparatively recently drilling fluid was regarded only as a lubricating and cooling medium for the bit and drill stem and as an agent for washing the cuttings out of the hole, and even today many operators have little other thought of it. But, research and actual work which have been carried on by certain companies have led to one very definite conclusion, that is, that the functions of mud are more far reaching than any of the earlier conceptions of them.

That by treating and conditioning of the mud many trouble conditions in drilling, particularly high gas pressures, porous formations and cavities, and even heaving shale, the foremost enemy of today's drilling, can be overcome has been determined. There is no one specific treatment which can be followed in combatting all these hazards but tests have proved that by the use of different chemicals and admixtures, and various combinations of these, drilling fluid of most any particular chemical and physical characteristic can be built up. Thus, with certain chemical reactions in the mud, gas can be relieved; with others, the mud can fill porous formations and even cavities, and with still others, the effect of heaving shale can be counteracted.

May Wait Too Long

Ofttimes present day operators become extremely curious at admixtures and chemicals, and skeptical of what can be accomplished with them, because formerly no such things were thought of and operators merely accepted the consequences when they ran into trouble. On the other hand, with the shallower drilling of those days the difficulties were not so numerous or so serious, and not so much was at stake. It has been only since the advent of deep drilling and exploration of the more hidden sources of additional crude reserves that there has been much concern over high pressure horizons, cavities and heaving shale, and consequently the means and methods of combating these problems are new to most operators.

Howewver, after trouble of some kind in ordinary formation drilling is run into and an operator has fought it in vain for days, he usually consents to the use of chemicals and admixtures. The sad sequence in some case, though, is that the operator waits too long before treating his mud, and with a hole ruined from top to bottom before assistance is asked, there is very little that can be done. On the other hand, many such wells have been saved by mud treatment, although administered late, and generally the owners under no circumstances would ever do without chemically treated mud again.

Possibly no other company has done more work in the treating and conditioning of muds and has devoted more study and research to the subject that the Yount Lee Oil Co. of Beaumont, and the success this company has had in overcoming and even eliminating trouble conditions attests what can be done. By careful and detailed treatment of muds, this company consistently has been able to make hole without trouble in areas and through formations where others fail. In the combating of heaving shale, which formation no other company or operator has ever really conquered, Yount Lee Oil Co. since December, 1932, when the work and study of mud treating was taken up by the company, has penetrated successfully more than 21,000 feet of heaving shale. This includes only sizable bodies of heaving shale, the smallest being at least 100 feet in thickness with many ranging up to a little over 2,300 feet.

Elements in Treating

The mud work of this company has been under the complete direction of M. T. Halbouty, geologist and petroleum engineer, who has become recognized as one of the leading authorities on the subject. It is to Mr. Halbouty that the writer is indebted for the information in this article and for assistance in its preparation. Mud work, although very important, is just one phase of his duties as he has charge of all geological engineering and paleontological work of the company.

The work done by Yount Lee Oil Co. under the supervision of Mr. Halbouty has brought out that there are a number of elements entering into the successful treating of wells.

In the first place no two wells are exactly alike. Although the principal of fighting various conditions is precisely the same in each case, each affords a different problem and no instances have been found in which the same chemicals and formulas used in one well would work in another. Yount Lee Oil Co. does not confine its work to any certain chemicals and admixtures. On the other hand it is the belief of Mr. Halbouty that every chemical and admixture has some definite characteristic or property which can be used in overcoming some special condition that might arise. No one of these can be prescribed for any given trouble condition because a reaction of a chemical to a given condition depends entirely on the characteristics and properties already present in the mud to be treated, and these characteristics and properties have been built up gradually in the course of drilling by any number of different treatments to overcome various conditions which might have been experienced previously.

The ideal mud is the extreme goal and this can be attained only by the proper chemicals in proportions to meet certain trouble conditions, combinations of conditions and degrees of trouble. Each chemical is added to react in such a manner with the mud that the object and condition to be overcome is slightly overcome, and then as different conditions arise other chemicals in succession are added, each tending to react with the previous chemicals that a gradual, but sure, mud characteristic is built up.

Skilled Supervision Needed

This leads to another element entering into the successful treatment of muds, and that is that skilled supervision is necessary. There are so many things to be considered that the work cannot be handled in a haphazard manner or by guess work. Anyone treating or having supervision of treating muds must be perfectly familiar with drilling operations, be quick at mathematical problems and tables, and have a good knowledge of chemistry and geology. Every chemical when applied correctly will give a certain reaction. If a treatment is to be successful and accomplish its purpose, the mud engineer must know the reaction that will take place, and what is more important he must know the reason of the reaction. One of the troubles which has been experienced so far in mud treatment is that those entrusted with the work have not understood chemicals enough to know the reasons for doing certain things. While these mud engineers have realized the need of treating, the majority so far have been working blindly, experimenting with the application of various chemicals and only hoping that a reaction will be effected that will accomplish a given purpose. It is an unbreakable rule of Yount Lee Oil Co. never to add a thing to the mud until the mud engineer knows definitely what to put in and why. That there will be no question concerning what chemicals and admixtures are to be put in, all formulas are very carefully worked out in the laboratory, where complete and thorough tests are made of all muds and the reactions of different chemicals and admixtures upon them.

Following this up, a mud engineer must be familiar not only with chemicals and their definite reactions to muds and other chemicals, but he also must know the mud he is dealing with and the conditions in the hole. In other words, not only the chemical but the physical characteristics must be thoroughly affixed in the mud engineer's mind before he attempts a detailed treatment of the mud.

Careful Records

This requires that a constant watch must be kept of the mud in the hole during the course of drilling. Tests of the mud in every well are made by Yount Lee Oil Co. from three to five times every 24 hours at least and all data such as chemical changes, weight, viscosity, salt contents, impervious properties, colloidal strength, etc., are recorded and studied with accuracy. Certain chemicals are added to the mud in the test bucket on the derrick floor or in the tool house and the reactions of these chemicals to the mud noted. With such information obtained day by day, the engineer in charge becomes so familiar with the mud that at the outbreak of any trouble while drilling, no time is lost in adding the required chemical or chemicals to counteract the trouble conditions. It is the belief of Mr. Halbouty that on an important well, or any well where particular trouble is anticipated, an engineer should be assigned to watch the mud carefully and constantly observe that it contains such characteristics and requisites at all times to counteract the anticipated trouble.

Fighting Heaving Shale

This is more true in fighting heaving shale. The geologist can easily determine from geological data the approximate depth of the shale, and treating of the mud for drilling the shale should be started when the bottom of the hole is as much as 1,000 feet above the horizon, if possible. This will benefit the operator in the saving of a considerable expenditure of money and trouble. In one particular well handled by Mr. Halbouty and which was treated in such fashion approximately 1,100 feet of heaving shale was penetrated. The shale did not heave and gave no trouble of any kind. Cores and cuttings determined and proved it to be the same shale which gave much trouble in wells nearby, but it was the careful treatment of the mud days before the shale was encountered that prevented the heaving phenomenon to take place.

This, according to Mr. Halbouty,

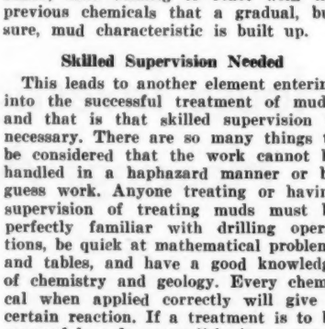
(Continued on Page 42)

Pursues Research in Drilling Mud Treatment

A large part of the credit for the success which Yount Lee Oil Co. of Beaumont has had in the overcoming of such drilling problems and conditions as heaving shale, salt, porous formations and cavities, and high pressure zones is given M. T. Halbouty, geologist and petroleum engineer for the company, in his work in the treatment of drilling mud.

Mr. Halbouty, a geo-chemist, has devoted considerable research in the use of chemicals and admixtures in building up particular characteristics and properties in drilling muds to counteract the many different trouble conditions that are encountered. In this work he has become a recognized authority.

In addition to directing mud treatment, which is a part of his other duties, Mr. Halbouty has charge of all geological and paleontological work and geological engineering of the company. He has been associated with the Yount Lee Oil Co. since 1931, going with the company following his graduation from Texas A. & M. College, from which he received bachelor of science and master of science degrees in geology and petroleum engineering.



M. T. HALBOUTY

Pipe Bending Has Been Developed Into Exact Mechanical Achievement by Special Crews

By L. G. E. BIGNELL
Petroleum Engineering Editor

In securing rights of way for pipe lines for either natural gas, crude oil or gasoline, it is always desirable to follow a straight line as the shortest distance between two points. This is not always possible for many reasons, nor is it feasible always to have the grade for the ditch follow regular ascending or descending planes. One rather unusual exception to this general statement is a 14-inch cast iron pipe line approximately 61 miles long recently laid from the brine wells of the Southern Alkali Corp. located in Duval County on the Palangana Dome almost due west of Corpus Christi, the site of the Southern Alkali Corp.'s new chemical plant.

The elevation at the mouth of the wells is enough to permit the salt brine to be delivered to the open reservoir at the plant site by gravity flow. This condition was made possible through a fortunate topographical coincidence that the pipe line is able to follow practically an air line between the two locations without high head siphons, while the difference in elevation of about 450 feet provides ample head for gravity flow. The capacity of this line in addition to the brine in the 3,000,000-gallon shell-lined earthen reservoir assures the plant of an ample supply of this water at all times.

While a few other pipe lines have had similar ideal rights of way, the usual condition is that the pipe requires numerous bends both horizontally and vertically, and there are two ways usually followed in making these bends in the pipe. That is either the pipe is bent in the pipe mills before shipment or on the right of way as the pipe is being laid. Both systems have their advantages and disadvantages.

The pipe forming a line may be joined by screwed or other type of couplings or by welding. The mechanics of bending pipe for these different kinds of line varies, but with either method it is quite essential that the equipment used on the job be of the best quality and that the men engaged in this kind of work be experienced. It is usual practice to have special pipe bending crews for the larger diameter lines, while the tie-in gang does the pipe bending for the smaller lines.

Field Equipment

For bending either kind of pipe, i.e., that laid with couplings or that welded, the tractor with floating boom has become commonly used equipment. These tractor units weigh up to 14,000 pounds apiece and can be increased in weight for certain operations by the addition of 1 or 2 tons of extra counterbalance weights.

The tractors are all purpose machines used to place the pipe in position for welding, lowering into the ditch or for bending and also for furnishing the power needed for the bending operation, especially if the cold bends are made in welded lines.

For hot bending such as usually practiced on coupled pipe lines the item of next importance to the tractor is the shield used to protect and direct the heating flame against the pipe. These shields are made from No. 12 or 14 gauge sheet steel and provided with openings either in the back or at top and bottom through which the oil jet enters and by means of which the kerosene usually used for fuel is burned.

Bends in a welded gas line laid in Montana

It is not necessary to make these shields of heavier metal than 12 or 14 gauge steel because any added weight only increased the load to be moved and does not increase the efficiency of the unit. Metal of a thinner gauge will tend to warp or distort, due to unequal expansion and contraction.

The shield is made in the form of an open-sided rectangular metal box with the open side turned toward the pipe to be heated. The shields are about 8 feet long and so placed with regard to the work as to permit a clearance of about 6 inches between shield and pipe.

Special kerosene torches are made to furnish the heat for this kind of work and experience has shown that this is the most satisfactory fuel for this purpose. Two torches are usually used in each heater and the pipe heated rapidly to prevent opposite sides from becoming too hot. This rapid heating eliminates the need of later cooling a portion of the pipe that was unnecessarily heated and in so doing endangering the texture of the metal by sudden chilling.

A small portable air compressor is usually used with such jobs and is mounted upon the bed of a wagon or upon a skid made out of pipe so that it can be dragged along behind the tractor or truck and moved by other than its own power. The compressed air is used to feed the fuel to the burners and also to spray water if it is necessary to cool the pipe. By spraying the cooling water on the pipe the metal will not tend to crystallize and a smaller amount of water is used for cooling purposes.

Hot bend in 24-inch gas line laid by Williams Brothers. Part of line from Panhandle gas fields to Chicago

Bending Blocks

In bending either coupled or welded pipe in the field it is essential that the bend be made quite accurately both as to position along the pipe line and in degree of bend to conform to the needs of the ditch or curve where it is to be used.

Experience has shown that any form of bending block that will present a firm support to that portion of the pipe not to be deformed or bent will serve. One type of bending block is made out of a piece of pipe the same diameter as the pipe to be bent. The ends of this short section of pipe are formed to fit snugly against the side of the pipe to be bent and also to extend over top and bottom of this pipe so that a firm support will be furnished against the pull exerted in forming the bend.

For bending pipe that has been welded together it is usual practice to lay one end in the ditch and then hook on to the other end or on the body of the pipe at some point beyond the portion to be bent with the line leading from the winch on the tractor. Two two-way blocks are used for the lines from winch to pipe, or eight parts in the line. This hook-up will permit the bending of the pipe in a horizontal plane. If the bends are to be either up or down, two tractors are used, one placed over the pipe on shields to protect the pipe against the tread of the caterpillar tracks and to hold the pipe down and the second tractor with boom used to furnish the power through the winch for bending the pipe.

For this kind of work the pipe is laid on supports above the ditch and the caterpillar tractor run up over the pipe and brought to rest upon it, and the pipe is protected by the shields made out of a joint of pipe split in two parts and the ends of the shields turned up to assist in forming the bend.

When the second tractor hooks on to the pipe above or below the tractor straddling the line and picked up on the line the pipe would bend close to the shields under the stationary tractor. By careful manipulation the exact curve and amount of bend could be imparted to the pipe. The relative position of the two tractors determined whether the bend is up or down with regard to the run of the line.

To bend the coupled pipe after it is

(Continued on Page 49)

Plan Proposed to Allocate Gasoline Production According to Value of Products Recovered

It is becoming well recognized by both oil executives and administration leaders that an equitable and practical method must be devised for allocating gasoline production among refiners if the industry is to prosper and the crude supply is to be conserved.

Refiners know that for years their profits have been low in comparison with other industries. This is due in a large measure to their lack of co-operation and their tendency toward overproduction of gasoline and consequent price cutting. It is imperative now that the Government and the industry work out a logical method of controlling gasoline production as to quantity and quality.

Since last October, when the Federal authorities first set crude production allowables, some success has been achieved in the reduction of crude inventories. The daily average crude production in March was 136,000 bbls. below the daily average for September, 1933, and crude stocks for this period were reduced by approximately 3,000,000 bbls.

However, during that same period (September, 1933, to April, 1934) the stocks of finished gasoline increased by nearly 7,000,000 bbls., while the stocks of "unfinished gasoline," reported for the first time in April, totaled 10,000,000 bbls. additional. In order to correct this condition, a general refinery control plan was drawn up by representatives of the oil companies in conference with the petroleum administration board, started April 11, in Washington. This plan has been approved by Secretary Ickes.

The plan contemplates dividing the country into various refining districts and provides for "district allocators" or committees to determine from time to time:

"1. The proper inventories of gasoline for each district.

"2. The production of gasoline in each district necessary to meet the demand therefor with due regard for normal and seasonal fluctuation in refining operations.

"3. The determination so made shall constitute the operating schedule for the refining industry in each district and the same shall be published for at least 15 days before the effective date thereof."

No specific method for operating the control plan has been announced for the actual allocation of crude as between the different refiners in each district. The only suggestion brought forward was that the crude be apportioned according to the gasoline sales of each refiner over some past period, for instance, the first three months in 1933.

The tremendous complexity of the detailed administration of such a control plan was ably reviewed by A. E. Pew, Jr., in a recent address before the semi-annual meeting of the National Petroleum Association at Cleveland. The necessity was pointed out for exhaustive studies of proper minimum stocks, seasonal variations in production, and differences in conditions in the different districts, as well as the complications introduced by marketing three different grades of gasoline.

Favors Conservation

A definite plan is presented here for allocating gasoline production among refiners in accordance with the ability of each to produce products of a greater total value than the crude itself. The suggestion, as it was prepared for publication here, invites serious consideration because of its timeliness and because it has as its objective the conservation of a most valuable natural resource.

Difference in Yields

All of this must be done before sound objectives for refinery production can be established. However, even then the problem of the proper relation between production of refined products and consumption of crude remains to be solved. Merely determining the amount of gasoline to be produced does not fix the amount of crude which should properly be run as long as some refiners operate with gasoline yields of 30 per cent and others with 60 per cent.

From the standpoint of the country's best economic interests, the objective of governmental regulation should be reduction in the wasteful consumption of crude oil. Generally speaking, skimming is a wasteful method of making gasoline because the yield is relatively small and the quality of both the gasoline and fuel oil produced is relatively low.

The petroleum industry is peculiarly situated in respect to its marginal producers (those companies which may operate only when the relation of crude prices to gasoline price is very favorable), since such companies not only manufacture at a higher cost level but also supply the market with inferior products, which in turn reduce the efficiency of motor cars and other machines in which they are utilized. As operating today, the average refiner improves by his manufacturing processes but little more than half of the crude he runs to his stills and degrades the remainder into a product of less value than the original raw material.

It is the purpose of this paper to point out desirable relationships between the proper production quotas for such "improved products," of greater value than the crude, and the amount of crude consumed.

Method of Allocating

It is proposed that the crude allowable for each refiner should be based on his ability to limit the degradation of his raw material. The measure of this degradation may be based upon the gasoline yield that he obtains or upon the yield of all products having a price higher than that of crude.

Thus, the refiner showing the minimum degradation (or the highest yield of profitable products) would receive first consideration for the crude he requires, while the remainder of the allotted crude for the district would be distributed among the others on the basis of the ratio of their recovery of valuable products to the maximum obtainable, as well as their past market.

This scheme would not only benefit the country as a whole from a conservation of natural resource standpoint but would increase the profits to the individual refiner if he is efficient. As an example of the effect upon the skimming plant operator who installs a topping and cracking installation in place of his present skimming plant alone, we show the following comparison. This refiner is assumed to be in the Mid-Continent section where he will invest capital in crude processing equipment.

The amount invested will pay for a crude capacity of 4,000 bbls. per day if he skims and cracks to a fuel oil residuum, of 2,000 bbls. per day if he skims and cracks to a coke residuum, or of 10,000 bbls. per day for skimming alone. Under these conditions we may make the following economic calculations based on current quotations for crude, fuel oil, and gasoline (Table 1).

From Table 1 a relationship between allowable price of crude and price of gasoline may be drawn if the manufacturing cost is assumed constant (A, B, or C) and the price of the fuel oil (or its equivalent heating units in coke or gas) be fixed at $0.72 per barrel.

Let x = the price of crude in dollars per barrel.

Let y = the price of gasoline in dollars per gallon.

Cracking to residuum..x=30y+0.01—A
Cracking to coke .....x=33y—0.02—B
Skimming .....x=14.7y+0426—C

In these equations x represents the price a refiner may pay for crude to break even at any particular price for gasoline. As examples, substituting $0.21 for A, $0.30 for B, and $0.06 for C, prices of $1.23, $1.25, and $0.82 per barrel may be paid to break even. At present crude costs, skimming would show a loss of $0.18 per barrel.

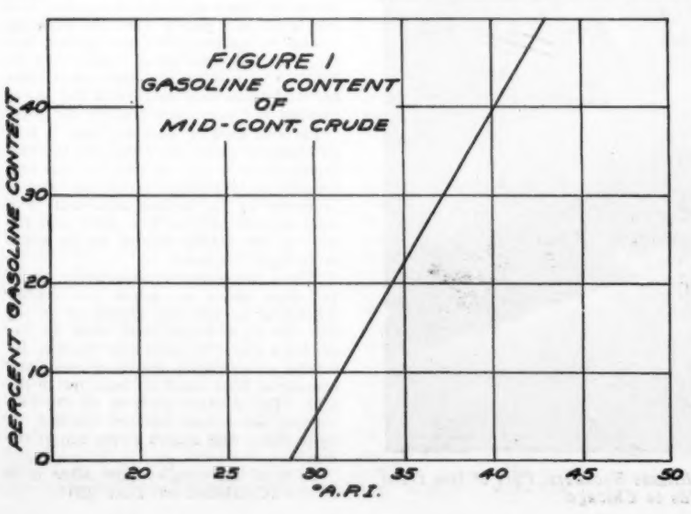
Cracking at the present time shows a much greater profit advantage over skimming than that which existed three years ago.

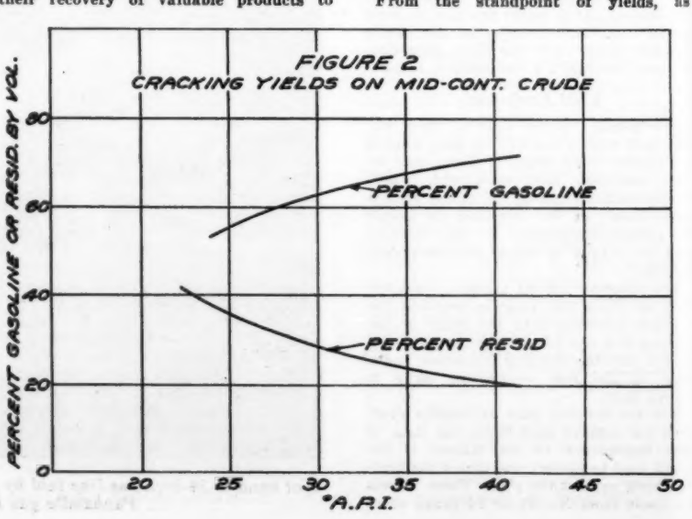
In addition to a somewhat more favorable price structure for cracking, due to the premium on higher antiknock gasoline, manufacturing costs (which include all overhead, royalty, and treating) of cracking have been reduced to a relatively greater degree. Many factors enter this reduction, among them being the lower installation, royalty, and treating costs.

From the standpoint of yields, as

TABLE 1—OPERATION AS OF APRIL 16, 1934

	Cracking to fuel oil residuum		Cracking to coke residuum		Skimming to fuel oil residuum	
Debits—	Gallons	Dollars	Gallons	Dollars	Gallons	Dollars
Mid-Cont. crude 36° A.P.I.	42	1.00	42	1.00	42	1.00
Gathering-delivering cost	.....	0.21	.....	0.21	.....	0.21
Manufacturing cost, total	.....	A	.....	B	.....	C
		1.21+A		1.21+B		1.21+C
Credits—						
Gasoline	30@0.0475	1.43	33@0.0475	1.57	14.7@0.0425	0.62
Fuel oil @ 0.0171	10.1	0.17	0.0	0.00	26 9	0.46
Gas @ 0.22/M	0.231	0 05	0.504	0.11	0.042	0.01
Coke @ 3.60/ton	.....	0.00	0.021	0.08	.....	0.00
		1.65		1.76		1.09
Profit per barrel		0 44—A		0.55—B		—0.12—C





shown in the above figures, a much smaller quantity of crude would be required if refiners utilized their raw material to its full potential. In the cases shown, more than double the crude production would be required if skimming alone were utilized. While in the case of companies having complete refineries it would not be possible to process the crude entirely for gasoline production, the requirements for other products of higher value than crude are comparatively small.

For instance, in 1933 in United States refineries, a yield of 5.7 per cent kerosene and 2.8 per cent lubricants was manufactured. During this same year the total gasoline yield from crude was 43.7 per cent, of which 22.8 per cent was straightrun gasoline. We estimate that from this average crude a total yield of 65 per cent gasoline is obtainable when simultaneously producing a marketable fuel oil residuum. If we deduct the 8 per cent of kerosene and lubricants, a gasoline yield of 57 per cent should be realized, and those refiners showing less than 57 per cent gasoline from this average crude are degrading it and should be penalized by reduction in their crude allowable. Note that the above is based on average crude of United States. Some crudes may be processed to yield as high as 40 per cent of lubs and kerosene which, of course, should be added to the gasoline yield to determine the allowable. In fact the percentage of lubs might be multiplied by a factor based upon its price difference with gasoline.

As a basis for this scheme, it is proposed that each refiner be required to supply the administration board with a statement showing the percentage yield of improved products he has obtained from his crude during the first three months of 1934 as well as the gallonage of the products marketed. With these data an allotment can be made as follows:

$$\text{Crude allocated} = \frac{\text{market quota}}{D}$$

The factor D is represented by the ordinate in Figure 5 and is shown as a straight line with the equation

$$D = \frac{A \times \text{yield}}{100} + B$$

On this chart past practice is shown by a line 45 degrees to the abscissa, i.e., a line with a slope of 1.0 where B would be equal to 0. The constant A represents the slope of the curve and is fixed by the policy of the administration board in determining the amount of premium to be given for efficient operation. The constant B must then be adjusted in order to arrive at the market demand for improved products.

During the initial period in which this scheme goes into effect A would have a value of 1.0 and B a value of 0. After this period it is suggested that a value of 0.9 be assigned to A, and B correspondingly adjusted to a value of approximately 0.04. Under these conditions the straight line designated as X in Figure 5 will be utilized.

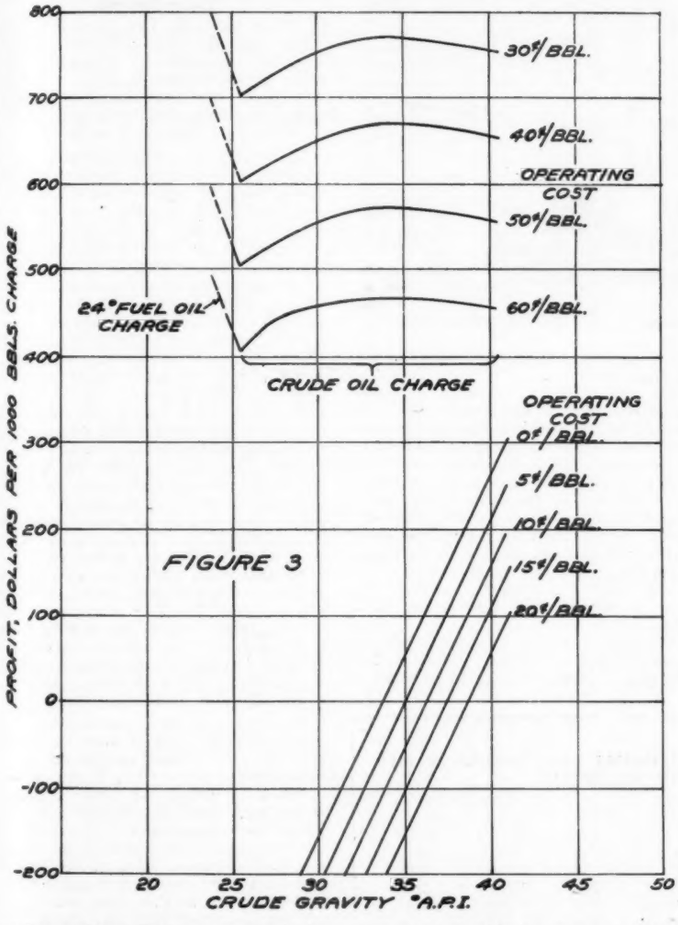


FIGURE 3

Example Cited

As an example reflecting the effect of this change, assume one refiner in his district obtains only 30 per cent of improved products from the crude. His crude allowable will, therefore, be calculated as the number of barrels of improved products he sold during the last month divided by 0.31, i.e., 0.9 × 0.3 + 0.04 or he will be allowed only 97 per cent of the crude he charged to his stills in the previous period. On the other hand the divisor for the refiner who is obtaining 60 per cent yield from his crude will be 0.9 × 0.6 + 0.04 or 0.58 which would allow him 3.5 per cent more crude than he charged in the previous month. This more efficient refiner will find a market for his increased production of improved products due to the reduction in sales by the inefficient refiner.

As the more efficient refiners increase their plant capacity to meet the greater market demand, the factor A may be progressively reduced. As an example, a second line has been shown on the chart designated as Y where A has a value of 0.8 and B has a value of 0.09. Under these conditions the refiner with 60 per cent yield would have his allowables increased 5 per cent, while the 30 per cent yield refiner would have his reduced 9 per cent. As a result of this scheme the marginal producer will be forced to increase his efficiency or gradually go out of business while the country's crude requirements for the present improved products market will be progressively reduced.

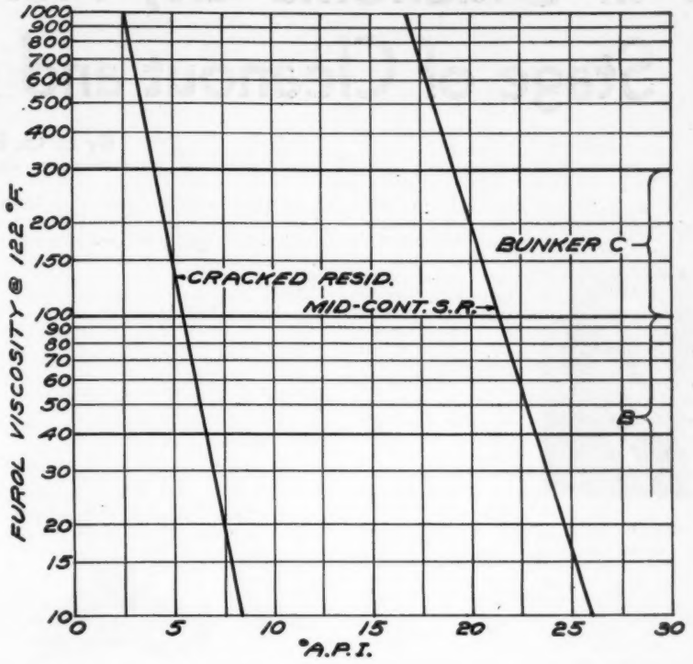
Price Fixing

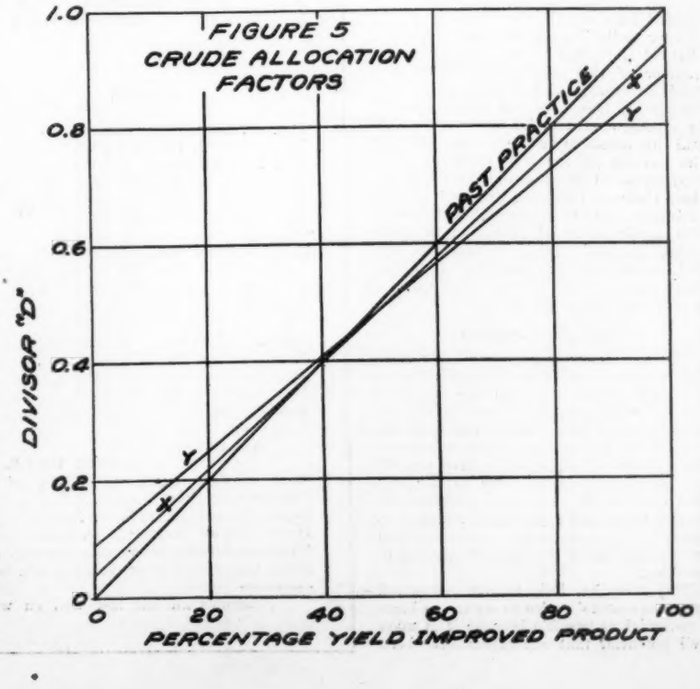
While the above scheme may appear upon first consideration a rather radical departure from other plans, in effect the recently proposed Federal price fixng would arrive at practically the same result as regards discrimination against inefficient refiners, and in addition would be less subject to accurate control. Although price fixing is always a dangerous procedure for any industry, in the case of the petroleum industry this form may be desirable since natural economic laws have been unsuccessful in assuring normal profits. By means of this method even if established at present levels, profit calculations show that more extensive use of cracking would be required, resulting again in providing a more logical balance between crude production and its major product as well as conserving this important natural resource.

In order to follow the result to an average refiner, were the recent Federal price schedule adopted as suggested, the following analyses were calculated: As a simplified illustration, the case of a refiner located in the Group 3 area and processing Mid-Continent crude is again considered. Figure 1 shows the relation

(Continued on Page 41)

FIGURE 4
VISCOSITIES OF STRAIGHT RUN & CRACKED FUEL OILS





All Oklahoma City Field Wells Rapidly Nearing Stage of Cleanout and Mechanical Production

By L. G. E. BIGNELL
Petroleum Engineering Editor

At the end of five years and six months of development and production the Oklahoma City Field is now definitely in that period of activity that demands the utmost skill and perseverance on the part of the production department employes to keep the wells in condition to deliver oil. This field is ducing its oil from a depth of below 6,000 feet and in this sense is rather unusual. There have been a few small deep fields in other states but Oklahoma City with over 1,000 wells is the largest deep field in the world and it therefore presents many hitherto unknown problems.

The wells were all drilled with rotary outfits and only a few were finished with cable tools, some early in the life of the field and some after the formation pressures had fallen below 750 pounds per square inch. The present average pressure in the Wilcox sand zone is estimated at about 500 pounds per square inch. Some wells still being drilled in this zone are encountering trouble in completion and two in the extreme northwestern section of the field near the city have recently been reported as nonproductive, one having salt water in the Wilcox and the other no showing.

A third well in the Wilcox zone now drilling is having trouble drilling in after setting the 7-inch flow string. The pressure is so low that clear water enters the formation very readily and even though the hole has been cemented twice in an effort to seal off the upper portion of the sand that is suspected of taking the circulating water the results have not been all that was hoped for by the operators.

In Section 22-11-3, on the west edge of the Wilcox zone and in one of the subdivisions of the city there are a lot of new wells drilling in spite of the fact that 44 wells had been completed in one quarter of this section by February 1, 1934, an average of 3.63 acres to the well. Owners of leases on lots have succeeded in making contracts for drilling the wells and this seems to be the prime object for the pay-out on the well from oil recovered seems to be of secondary consideration. Units in the lease are sold and the promoter gets his money out of this sale. The whole story of financing is interesting but as it does not have any special bearing on the problems of production except as offset wells are effected it will not be recited here.

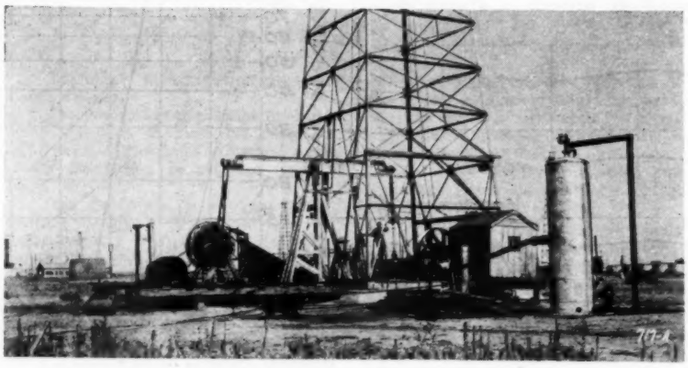
Production Practice

The old Arbuckle lime wells are practically out of the production column and the wells producing from the sands of the lower Simpson zone are rapidly approaching the stage where the lease allowable is difficult to make because a large number of these wells have reached the pumping stage but due to the fact that these wells have been produced for several years under proration restrictions many operators were not prompt enough in changing from the gas lift method to pumping.

This delay has been largely influenced by the operators' desire to secure as large a potential as possible because it is upon well potential that allowables have been based. These wells are now at a stage where they can make their allowable by pumping but this was hardly possible where allowables were based upon gas lift potentials.

Wilcox zone wells are still being produced by gas lift in most instances, although some are produced by some form of mechanical pumping or lifting device. However, the formation pressure is falling to that point where it will be difficult to secure the oil by gas lift much longer and the wells will probably go on the beam pump in the majority of cases.

Some time ago operators commenced to run tubing into their wells in both the lower Simpson and Wilcox zones and in many instances it was necessary to clean the holes before the tubing could be run to bottom. This early work was done largely by bailing and in some instances cleanout cable tools were used. The Cavins suction bailer has been extensively used in this cleanout work and in some wells the settlings were encountered 2,000 feet above the bottom of the hole. This was an exceptional case but cleaning out from 200 to 400 feet of settlings is common. In the Wilcox sand zone the average thickness of pay penetrated has been reported as a little over 140 feet, with a maximum of 270 feet.



Semi-portable cable tool clean out unit. Steam for engine is furnished by boiler set back from well

In most wells it has been found that the sand filled the drilled hole to within 15 or 20 feet of the casing point and it has been necessary to remove these settlings before the tubing could be effectively run and set. In some wells rotary mud was removed from beneath the upper layer of cavings. The settlings consist largely of fine sand mixed with shales.

In some instances the bottom of the hole was shot to increase production. The material broken loose had to be removed by bailing. But in the holes where no shot has been exploded it is believed the sand will sluff off and appreciably enlarge the hole. In other instances the shale will not stand well and it will break away from the walls until there is no support for the sand body above and the sand will then run into the hole also.

Later Methods

While the cable tools, standard type bailers and the suction bailers are still used in reconditioning Oklahoma City wells a new method has recently been adapted to this field's cleanout problems and it has been efficiently used in reconditioning a number of wells.

Many years ago the Smith-Dunn process of cleaning wells by the injection of high pressure air into the bottom of the holes was developed in the Marietta, Ohio, district and later formed the basis of what is known as the Arco process of cleaning wells with compressed air.

The Tidal Oil Co., Tulsa, was among the first to experiment with this process. In 1925 this company was first interested in this process but as there were no gas lift or repressuring plants in the fields, portable pressure plants had to be developed and used.

In co-operation with the inventors equipment was selected and assembled to do this work. It consisted principally of tractor and trailers upon which were mounted a special high speed, two-stage portable compressor, operating at 500 pounds pressure, an air tank 3½ feet in diameter by 24 feet long and a winch for hoisting the tubing and sucker rods.

As compressor plants for repressuring and gas lift became more common cleaning out was done by using air or gas from these stationary plants and at least 1,000 wells have been successfully cleaned out by this method in Oklahoma, Kansas, Texas, Ohio, West Virginia, Pennsylvania, Kentucky and other states.

With this equipment used on comparatively shallow wells it was the usual practice to fit a heavy shoe to the working barrel on the bottom of the tubing in place of perforated pipe. A rotary swivel with hose was connected to the top of the tubing and then lowered into the hole and several barrels of water run in. The tank, filled with air at pressure up to 500 pounds per square inch, was connected to this hose and swivel and the air turned into the tubing.

The shoe served to clear the way through the settlings and also to break up some of the larger pieces of rock that had fallen into the hole. The high pressure air forced the loosened material to the surface in the annular space between tubing and casing together with the water introduced to mix with the settlings. This equipment was used to clean wells to a depth of 3,000 feet.

As cleanout problems became more important in the Oklahoma City Field C. E. Wright, chief petroleum engineer for the I.T.I.O. Co., together with other company engineers developed a method for local conditions based upon the use of compressed gas secured from repressuring plants in the field and using a special jet-bit on the end of the string of tubing. Over 20 wells have been cleaned by this method to date and the results secured in most of them are given in the accompanying table.

In working out the cleanout system applicable to Oklahoma City wells it was found that the methods covered by the

(Continued on Page 43)

RESULTS OF CLEANING OUT OKLAHOMA CITY WELLS WITH GAS—LOWER SIMPSON ZONE

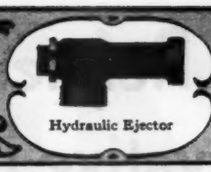
Rigging up	Finished	Clean-out time (hrs.)	Hole cleaned (feet)	Production—Cleaning out—Before (bbls.)	Production—Cleaning out—After (bbls.)
Oct. 24, 1933,	Oct. 31, 1933	9	65	150	160
Dec. 1, 1933,	Dec. 9, 1933	12	265	1,100	1,200
Dec. 16, 1933,	Dec. 28, 1933	11	109	100	150
Dec. 28, 1933,	Jan. 6, 1934	9½	259	75	75
Jan. 8, 1934,	Jan. 16, 1934	20	218	200	350
Jan. 14, 1934,	Jan. 20, 1934	45	177	20	30
Jan. 14, 1934,	Jan. 27, 1934	91	18	20	20
Jan. 14, 1934,	Jan. 28, 1934	52½	230	25	60
Jan. 14, 1934,	Feb. 8, 1934	77½	297	34	80
Jan. 20, 1934,	Jan. 25, 1934	60	253	15	15
Mar. 25, 1934,	Mar. 31, 1934	11	100	60	100
Apr. 9, 1934,	Apr. 19, 1934	17½	204	150	475
Apr. 22, 1934,	Apr. 30, 1934	52	216	0	(*)
Apr. 25, 1934,	May 3, 1934	22	170	85	100
May 3, 1934,	May 7, 1934	24	123	20	100
May 9, 1934,	May 14, 1934	12	131	35	155
May 13, 1934,	May 18, 1934	12	184	140	375
May 29, 1934,	June 11, 1934	....	248	....	200

*Not tested.

PER WELL AVERAGE†

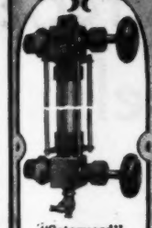
Time starting rigging up to finish of tearing down, days	10.0
Cleaning-out time, hours	31.6
Depth cleaned out in hole, feet	177.5
Depth cleaned out per hour, feet	5.6
Daily production before cleaning out, barrels	131.0
Daily production after cleaning out, barrels	203.0

†Includes all but last well on which records are not complete.


Hydraulic Ejector

PENBERTHY PRODUCTS

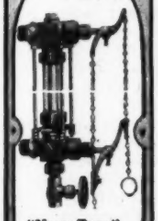
Steam Ejector


"Safeguard" Automatic Liquid Level Gage

Automatic Injector

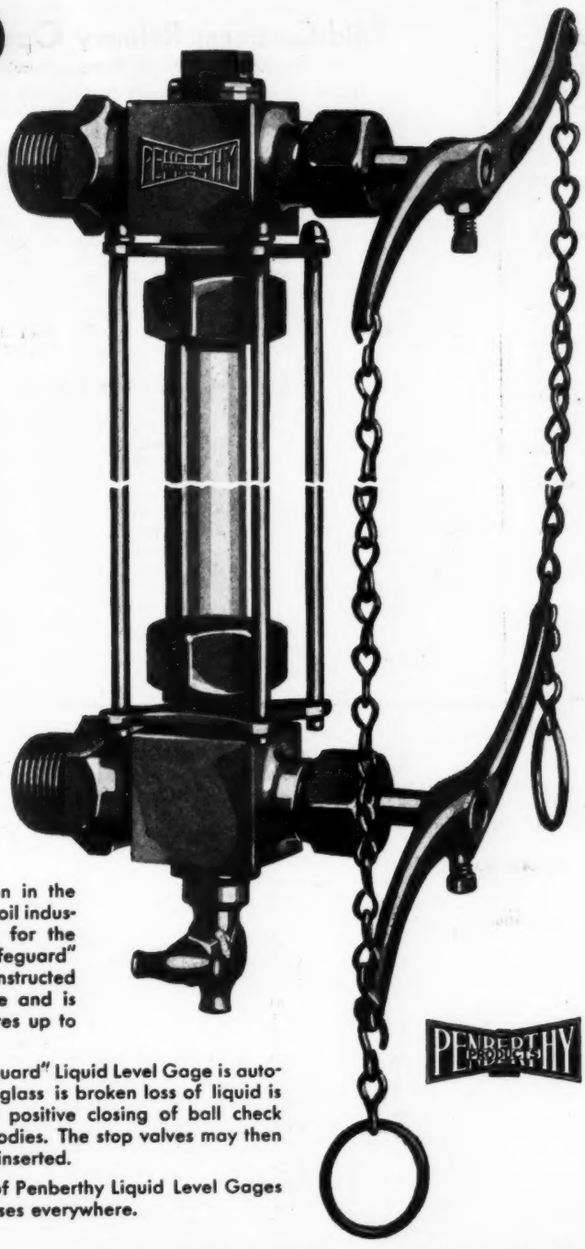
"SAFEGUARD"

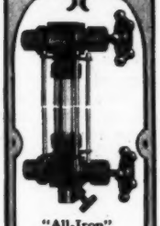
LIQUID LEVEL GAGE


"Navy Type" Liquid Level Gage

Gas Engine Lubricator

ALL ★ THAT THE NAME IMPLIES




"All-Iron" Automatic Liquid Level Gage

Snap Lever Oiler

SAFETY is a primary consideration in the selection of equipment for the oil industry—that is an important reason for the popularity of the Penberthy "Safeguard" Liquid Level Gage. It is ruggedly constructed of high grade steam metal bronze and is recommended for working pressures up to 300 pounds.

Operation of the Penberthy "Safeguard" Liquid Level Gage is automatic and dependable. When the glass is broken loss of liquid is prevented by the immediate and positive closing of ball check valves in both upper and lower bodies. The stop valves may then be safely closed and a new glass inserted.

"Safeguard" and the other types of Penberthy Liquid Level Gages are carried in stock by supply houses everywhere.

PENBERTHY PRODUCTS

Automatic Cellar Drainer (Water or Steam Operated)

Automatic Electric Sump Pump

PENBERTHY INJECTOR COMPANY

Manufacturers of Quality Products since 1886

DETROIT, MICHIGAN WINDSOR, ONTARIO

Spring Compression Grease Cup

Plain Compression Grease Cup

Screw Plunger Grease Cup

July Schedule of Mid-Continent Refinery Crude Runs Is Established at Conservative Level

By W. T. ZIEGENHAIN

The July schedule of Mid-Continent refinery crude runs reflects a sustained improvement in gasoline consumption. Total charges to stills will average 481,622 bbls. daily compared with 459,908 bbls. for June. The July figures are based upon estimates made early in the month by the individual refiners and are obtained after the gasoline allocation is made among all plants.

An optimistic factor in reviewing the trend of Mid-Continent operations is the absence of much added capacity among the East Texas refineries. There have been many name changes in that area and several new names have been added to the list, but all involve small plants.

Except for the North Louisiana and North Texas groups, all areas showed some increase in crude runs over June. Oklahoma refineries will run approximately 14,000 bbls. more crude than in June, based upon the June estimate but actual June schedules were higher than estimated so the actual difference in July is not as great as shown here. This applies in particular to the West Tulsa plant of the Texas Co. It is shown as running 14,000 bbls. daily in July, which is nearer what was actually run in June than the June estimate suggests.

East Texas Operations

In the past week, East Texas refiners have passed through the first period of "supervised operations." However, that supervision is no different than that given refineries in other areas in so far as their crude runs are concerned. All are governed to a large extent by the gasoline production allotted them. However, there is a difference in the East Texas situation in that 87 per cent of the refining capacity is now obliged to hold their gasoline production to that set by the allocator or lose a portion of the benefits derived from the purchases of gasoline by major refiners. More specifically, within the past week 87 per cent of the East Texas refining capacity agreed to abide by the gasoline allocations made by the national co-ordinator in return for the major refiners taking off their hands some 400 cars of gasoline in storage plus about 1,500 cars to be manufactured in July. The purchasers paid 3½ cents, 25 per cent of which is returned pending adherence to the agreement. The agreements have been approved by the administrator and an actual improvement in the gasoline price is felt in both East Texas and in Oklahoma.

The test of the agreement will come in the action of the other 13 per cent and the disposition taken by a disgruntled minority in the group which signed. If they attempt to undermine the plan by increasing crude runs, the market over the latter half of July might record low prices. If the plan does work out, there is every reason to look for moderately higher prices. The fact that 3½ cents was paid for the gasoline bought and the market has gone up but one-eighth cent does not necessarily indicate a lack of confidence in the plan but instead is evidence that the market is under control. Too rapid an advance would tend to disrupt refinery operations while an orderly increase in price will tend to hold refinery operations in check.

In the list of new names appearing in the East Texas area are those of the Blue Ridge Oil Co., which operates a 1,500-bbl. skimming plant at Gladewater; the Bradley Refining Co., having a 1,000-bbl. plant at Kilgore which is temporarily idle; the Calcul Refining Co. at Gladewater, which is operating a 500-bbl. unit; the Conroe Refining Co., operating a 500-bbl. plant at Kilgore, and the Model Refining Co., operating a unit at Reeds Switch. The Pelican Refining Co. has taken over a second plant at Gladewater and is operating both.

Runs of Previous Year

While there is nothing of unusual color in the trend of refining operations for July, when viewed only for the present, there is reason for hope of greater market security when compared with previous years. A year ago, the average crude runs were 525,845 bbls. or 45,000 more than at present. Except for the black year, 1932, no July in recent years

(Continued on Page 48)

Mid-Continent Refinery Operations

Average Daily Crude Runs (Barrels)

(Based on estimates compiled first of each month by The Oil and Gas Journal)

	1929	1930	1931	1932	1933	1934
January	508,550	535,460	478,795	405,910	399,405	448,360
February	506,800	519,355	470,125	411,280	407,125	456,619
March	514,950	531,500	449,634	401,155	423,445	465,680
April	530,530	535,250	497,391	419,391	441,000	458,220
May	577,500	574,300	510,540	436,160	470,460	457,165
June	583,030	572,250	567,915	440,765	479,987	459,908
July	565,800	548,475	588,840	433,255	525,845	481,622
August	555,250	526,400	590,545	427,710	518,510	.....
September	552,300	498,710	588,105	430,430	526,749	.....
October	544,720	518,800	472,190	401,995	495,756	.....
November	545,473	506,700	480,440	408,180	481,335	.....
December	540,630	478,360	456,525	416,275	434,275	.....

Operations by Refinery Districts

	July dly. crude capacity	July dly. crude runs	June dly. crude runs	July daily increase
Arkansas	37,550	20,850	20,650	200
East Texas	193,650	70,835	68,510	2,325
Kansas	182,950	105,850	98,150	7,700
North Central Texas	108,000	40,357	43,110	*2,753
North Louisiana	44,750	25,500	28,000	*2,500
Oklahoma	294,800	149,229	134,870	14,359
Southwest Texas	26,600	14,120	13,290	830
West Texas and Panhandle	102,475	54,881	53,328	1,553
Total	990,775	481,622	459,908	21,714

*Decrease.

OKLAHOMA

Company and location—	Daily capacity	Aver. daily runs— July	June
Anderson-Prichard Oil Corp., Cyril	6,000	5,629	3,569
Altitude Petroleum Corp. (J. H. Peacock Refining Co.), Oklahoma City	3,000	(*)	(*)
Associated Petroleum Corp., Allen	3,000	(*)	(*)
Barnsdall Refineries, Inc., Barnsdall	6,000	2,800	3,000
Barnsdall Refineries, Inc., Okmulgee	10,000	4,400	4,000
Bell Oil & Gas Co., Grandfield	4,500	2,000	1,900
Black Gold Refining Co., Oklahoma City	2,500	1,500	1,500
Century Petroleum Corp., Oklahoma City	2,500	(*)	(*)
Champlin Refining Co., Enid	16,000	6,000	6,000
Columbia Oil Corp., Oklahoma City	3,500	(*)	(*)
Continental Oil Co., Ponca City	30,000	17,500	17,000
Crescent Refining Co., Holdenville	1,000	(*)	(*)
Cushing Refining & Gasoline Co., Blackwell	1,700	1,500	1,500
Cushing Refining & Gasoline Co., Cushing	4,500	2,500	3,000
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	5,000	2,700	2,700
Empire Oil & Refining Co., Okmulgee	4,000	2,200	2,000
Empire Oil & Refining Co., Ponca City	12,000	8,000	8,200
Gem Refining Co., Oklahoma City	1,000	(*)	(*)
Globe Oil & Refining Co., Blackwell	7,500	6,000	6,000
Government Refining Co., No. 1, Oklahoma City	1,000	(*)	(*)
Government Refining Co., No. 2, Seminole	800	(*)	(*)
Government Refining Co., No. 3, Oklahoma City	3,500	200	255
Hanger Refining Co., Oklahoma City	1,000	250	250
Johnson Oil Refining Co., Cleveland	6,000	4,000	4,000
Major Petroleum Products Co., Oklahoma City	2,000	800	800
Marathon Oil Co., Bristow	5,000	2,300	2,300
Mid-Continent Petroleum Corp., West Tulsa	40,000	20,000	18,000
Oklahoma City Refining Co., Oklahoma City	2,500	(*)	(*)
Phillips Petroleum Co., Okmulgee	6,000	4,000	5,200
Producers & Refiners Corp., West Tulsa	6,000	3,000	3,000
Pure Oil Co., Muskogee	9,000	6,000	6,000
Rock Island Refining Co., Beckett	6,000	3,300	3,200
Sinclair Refining Co., Sand Springs	8,000	2,000	2,400
Sooner State Refining Co., Oklahoma City	300	(*)	(*)
Sun Oil Co., Yale	5,000	2,000	2,000
Sunray Oil Co. (C. E. Wright, receiver), Allen	7,000	2,000	2,000
Texas Co., West Tulsa	15,000	14,000	4,500
Texas Pacific Coal & Oil Co., Wynnewood	3,000	500	600
Tide Water Oil Co., Drumright	15,000	10,000	8,000
Triangle Producing & Refining Co., Oklahoma City	1,000	600	(*)
Wilcox Oil & Gas Co., Bristow	5,000	(*)	(*)
Wirt Franklin Petroleum Corp., Ardmore	4,000	1,000	1,800
Yale Oil Corp., Yale	2,000	350	500
York Refining Co., Oklahoma City	2,000	(*)	(*)
Total	294,800	149,229	134,870

*Shut down.

KANSAS

Company and location—	Daily capacity	Aver. daily runs— July	June
Altitude Petroleum Corp., Chanute	5,000	(†)	(†)
Barnsdall Refineries, Inc., Wichita	4,000	2,800	2,500
Derby Oil Co., Wichita	8,000	5,500	4,000
Dickey Refining Co., McPherson	5,000	800	800
Eldorado Refining Co., Eldorado	5,000	4,000	3,800
Falcon Refining Co., Inc., Great Bend	700	500	500
Gloco Oil & Refining Co., McPherson	10,000	7,500	7,500
Golden Rule Refining Co., Wichita	1,500	(*)	(*)
Kanotex Refining Co., Arkansas City	12,000	5,000	5,500
Kansas Gas & Gasoline Co., Winfield	500	100	100
Kreuger Refining Co., Laton	150	50	50
National Refining Co., Coffeyville	6,500	4,500	4,500
Petroleum Producers Co., Chanute	1,000	500	1,000
Phillips Petroleum Co., Kansas City	15,000	10,000	15,000
Security Petroleum Co., Chase	3,100	100	100
Shell Petroleum Corp., Arkansas City	20,000	12,000	12,000
Sinclair Refining Co., Coffeyville	12,000	6,500	(*)
Sinclair Refining Co., Argentine	9,500	5,000	4,500
Skelly Oil Co., Eldorado	23,000	15,000	14,500
Standard Oil Co. of Kansas, Neodesha	20,000	5,000	5,000
United Oil & Refining Co., Hutchinson	1,500	(*)	(*)
Vickers Petroleum Co., Potwin	3,500	2,500	2,800
White Eagle Refining Co., Augusta	16,000	13,500	14,000
Total	182,950	105,850	98,150

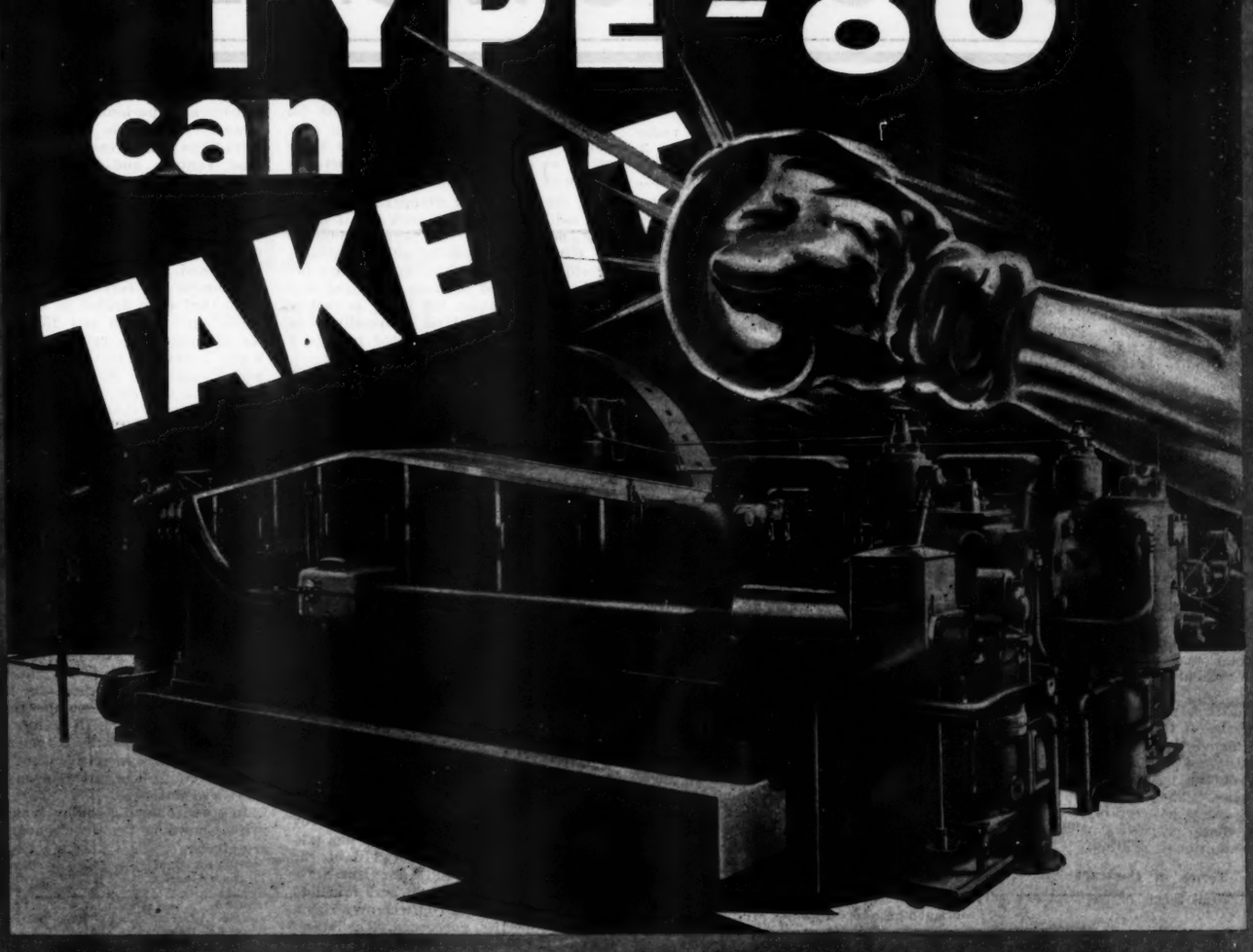
*Shut down. †Operating cracking unit, using gas oil.

SOUTHWEST TEXAS

Company and location—	Daily capacity	Aver. daily runs— July	June
Amsco Refining Co., Mirando City	2,500	800	800
Bee Oil & Refining Co., Pettus	1,000	100	100
Capital Refining Co., Luling	2,500	(*)	(*)
Chapa Refining Co., Laredo	100	500	500
Humble Oil & Refining Co., San Antonio	5,000	2,150	2,800
Magnolia Petroleum Co., Luling	7,000	5,200	3,650
Pettus Refining Co., Pettus	1,000	500	500
Phoenix Refining Co., San Antonio	500	400	420
Pioneer Oil & Refining Co., Somerset	1,500	800	850
Price Refining Co., San Antonio	500	70	70
Rado Refining & Producing Co., McAllen	500	200	200
Texas Co., San Antonio	3,000	3,000	3,000
Texas Petroleum Products Co., Somerset	1,500	400	400
Total	26,600	14,120	13,290

*Shut down.

TYPE-80 can TAKE IT



YOU won't have exhaust valve trouble with these Cooper-Bessemer four-cycles. Valves are made of a special heat resisting alloy that does not burn or warp at any temperature reached in gas engine operation. This is proved by engines that have been in service for more than four years with this type of valve. Seats are made of a material similar to that used in resisting the extremely high exhaust temperatures in airplane engines. Cooling water passes directly through these heat-resisting seats. They are designed and built to take it.

THERE'S a lot of satisfaction in operating engines whose "four-cycle economy" is not offset by the expense of frequent shut-downs. These Type-80 compressor units have all the stamina for which the larger Cooper-Bessemer types are so famous. Within the power rating of 85 or 170 B.H.P., no four-cycle units built today has established its reliability so widely and so well as the modern Type-80. Our nearest representative will be glad to tell you about installation costs, compressor capacities, performance records, and all other details in which you may be interested.

THE COOPER-BESSEMER CORPORATION

Mt. Vernon, Ohio — PLANTS — Grove City, Pennsylvania

640 E. 61st Street, Los Angeles, Calif. | 201 East 1st Street, Tulsa, Oklahoma | 1314 Magnolia Building, Dallas, Texas | 25 West 43rd Street, New York City | 225 Crockett Street, Shreveport, La. | 505 Esperson Building, Houston, Texas

NEWS FROM FOREIGN LANDS

VENEZUELA

It is expected that final arrangements will be made this week for carrying out the terms of a contract between the subsidiaries of the Pantepec Consolidated of Venezuela, Inc., and the Standard Oil Co. of New Jersey covering the drilling of test wells in the holdings of the former company located in eastern Venezuela. This section of Venezuela has been receiving more and more attention by operators over the past two years and the agreement between the Standard and Pantepec companies will make possible the carrying out of important development work.

The contract was entered into by Pantepec Oil Fields Corp., Alamo Oil Corp., Venezuela Pantepec Co., and American Venezuelan Oil Fields which are subsidiaries of the Pantepec Consolidated of Venezuela, Inc., which is 90 per cent owned by the Pantepec Oil Co. of Venezuela. The second party to the contract is the Standard Oil Co. of Venezuela, which already has valuable production in eastern Venezuela. The company is a wholly owned subsidiary of the Creole Oil Corp., controlled by the Standard of New Jersey. The board of directors of the respective companies have approved the contract and details in connection with title examinations are now being completed.

The contract covers three-fourths of the properties of the Pantepec companies in the State of Guarico, all of the properties in the State of Anzoategui and 61 per cent of the properties in the State of Monagas. The Standard company agrees to carry on certain development work in these properties with options covering additional drilling.

Terms of Contract

The principal terms of contract are as follows:

1. Standard will at its own expense drill six wells within a period of three years at locations to be selected by Standard. Each of these wells will be drilled to a minimum depth of 4,000 feet unless oil is discovered in commercial quantities at a lesser depth.

2. Standard will pay all government taxes on these concessions from the date the contract becomes effective until it fulfills the obligation to drill the six wells referred to in the preceding clause.

3. Within 60 days after Standard fulfills the obligation to drill six wells, it must elect one of the following courses:

(a) Terminate this agreement and retransfer to Pantepec companies all the concessions in question, free and clear of all liens and claims for taxes and of liabilities incident to the operation of the properties by Standard, Standard shall pay Pantepec companies for all oil disposed of by Standard from these concessions during the three-year period.

(b) Take a one-half interest in the concessions and in all oil discovered thereon in consideration of the agreement by Standard to drill at its own expense upon locations selected by Standard 14 additional wells to a minimum depth of 4,000 feet each (unless oil in commercial quantities is discovered at a lesser depth), within three years counted from the date of delivery of Standard's notice of its election as aforesaid; or

(c) Take a two-thirds interest in the said concessions and in all oil discovered thereon in consideration of the agreement by Standard to drill at its own expense upon locations selected by Standard 34 additional wells, with the same conditions mentioned above, within four years counted from the date of delivery of Standard's notice of its election as aforesaid, at least 20 of which wells shall be completed within three years from said date.

4. In the event of election under Subdivisions (b) or (c) of Clause 3, Standard will at its own expense pay all government taxes during the said three or four-year period, as the case may be.

5. After the completion of the drilling of the said 20 wells (6 and 14 wells) or the said 40 wells (6 and 34 wells), all expenses shall be for the joint account of Standard and Pantepec companies in proportion to their respective interests in the concession and oil. Detailed provisions were incorporated in the contract designed to protect the respective rights of the parties.

Market Outlet

6. After fulfilling the drilling obligations referred to in Clause 3 hereof, Standard shall operate the properties and the producing wells according to good oil field practice and will give the oil therefrom a pro rata market outlet in conformity with the production program in Venezuela of Standard and its subsidiary and affiliated companies; provided, however, that if after Standard has fulfilled the drilling obligations under Subdivisions (b) or (c) of Clause 3, the available productive capacity, according to good oil field practice, of the wells drilled is 20,000 bbls. or more per day, such production shall not be restricted so that Pantepec companies will receive less than 6,666 or 10,000 bbls. per day minimum, dependent upon whether the interest of Pantepec companies is then defined as one-third or one-half. If such productive capacity, according to good oil field practice, is less than 20,000 bbls. per day, then, in that event Pantepec companies' production shall not be less than its proportionate share of the current available productive capacity. Standard may, however, be relieved of such obligations to actually produce said amounts of oil, if available, by payment to Pantepec monthly in cash for Pantepec companies' portion of said production, at a fair and equitable price at lease storage tanks on the properties, computed on the basis of the value of said oil in the world markets less transportation, storage and handling charges back to the lease tanks, in which event Standard shall be fully reimbursed for the amounts so paid to Pantepec companies in cash, out of Pantepec's share of oil as and when the same is actually produced and saved.

In the event that Standard should desire neither to produce such oil, if available, nor to make the payment in cash to Pantepec companies as hereinbefore provided, the properties and the oil are to be subdivided between Standard and Pantepec companies, the latter to receive one-half or one-third, depending on whether Standard had elected to take a one-half or a two-thirds interest.

7. During the term of this agreement the interest of Pantepec companies in the oil produced and saved hereunder, except in respect to the oil produced as provided in Subdivisions (b) or (c) of Clause 3, shall vest in Standard as and when said oil is produced and saved, and Standard shall pay Pantepec companies a fair and equitable price therefor based on the value of the oil in world markets less reasonable transportation, storage and handling charges back to the lease tanks.

8. Except for such gathering lines and refinery facilities as may be installed for the exclusive use of the concessions in question, Pantepec companies shall not be responsible for expenditures in connection with the construction or operation of transportation or refining facilities.

MEXICO

The Mexican government according to an announcement of the past week by the ministry of national economy has taken over eight wells in Lot 176 of the Amatlan tract located in Vera Cruz State on the grounds that the owners failed to prove the existence of confirmatory rights to the properties concerned. The statement of the department in explaining the action was as follows:

"The ministry of national economy has just decided upon applications for confirmatory concessions relative to the Lot 176 of Amatlan, Vera Cruz State, which was presented by Francisco R. Illescas, the Compania El Agwi, S. A.; Compania Petrolera Capuchinas, S. A.; Compania Transcontinental de Petroleo, S. A.; the Vera Cruz State treasury department and Jose Ventura and has denied the confirmations solicited because the applicants failed to prove confirmatory rights to these properties. In view of this resolution various drilling permits issued for the above mentioned lot have been revoked and, in consequence, the federal government has taken possession of eight wells that were drilled in that land and which are: Nos. 9 and 15 Amatlan of the Compania El Agwi, S. A.; Nos. 2, 3 and 5 Amatlan of the Compania Petrolera Capuchinas, S. A., and Nos. 1, 4 and 5 Zacamixtle of the Northern Petroleum Co. Of these wells Nos. 2, 3 and 15 Amatlan are still in exploitation. The ministry has advised the federal attorney general of this decision, to the end that proceedings can be taken to prevent the extraction of petroleum from the lot by companies and individuals that would be prejudicial to the nation."

Plant of Ancap, (Administracion National de Combustibles, Alcohol y Portland) in La Teja, Montevideo, Uruguay

GASOLINE PRICES

The Petroleum Section, Minerals Division of the Bureau of Foreign and Domestic Commerce, has compiled a report showing the retail prices on gasoline, kerosene and lubricating oils at representative consuming points throughout the United States. All values are expressed in cents per U. S. gallon at the rate of exchange in effect about April 10 of this year. The price given includes taxes and duties.

In the following table some of the prices shown in the Government's report are given:

City and country—	Gasoline Price	Gasoline Tax	Kerosene price
Tirana, Albania	*77.4	...	30.3
Buenos Aires, Arg.	26.1	5.6	19.3
Brisbane, Australia	27.4	...	22.2
Vienna, Austria	33.3	...	17.8
Brussels, Belgium	31.9	...	38.2
Rio de Janeiro, Brazil	38.9	4.8	24.3
Capetown, Br. S. Af.	27.0	...	16.0
Shanghai, China	27.9	...	*22.0
Copenhagen, Denmark	28.0	10.0	30.0
Cairo, Egypt	28.6	11.7	10.9
Paris, France	54.9	27.9	57.3
Berlin, Germany	53.0	...	48.4
Athens, Greece	34.3	1.3	*39.0
Calcutta, India	42.0	...	19.0
Rome, Italy	65.9	37.9	60.7
Tokyo, Japan	13.2	..	11.7
Oslo, Norway	26.0	9.6	18.4
Lima, Peru	18.0	6.7	24.0
Warsaw, Poland	48.0	14.0	33.0
Madrid, Spain	39.1	5.1	41.1
Birmingham, England	29.0	...	17.0

*In .ins.

CZECHOSLOVAKIA

Crude oil production in Czechoslovakia during March totaled 18,067 bbls., an increase of 58 per cent when compared with the 11,424-bbl. production in March, 1933, according to a government report. The production in February, 1934, was 20,237 bbls. Production of natural gas in March totaled 111,621 cubic meters which compares with 132,673 cubic meters in February.

SPAIN

The Spanish government has appointed a commission to propose regulations governing production of liquid fuel by hydrogenation of coal or distillation of shale. There are large deposits of low-grade coal in parts of Spain, as well as shale deposits at Puertollano, in Ciudad Real Province. An agreement for shale development has been reached between the government and the Pennaroya Co. and a bill had been submitted to the Cortes under which oil production from such substances should be reserved for the state, lessening foreign oil imports.

Dubbscracked gasoline is anti-knock—but that isn't all It starts quicker, picks up faster—gives more miles to the gallon

But the motorist doesn't know that because nobody ever told him He knows it is good—if he tries it—but he doesn't know it's Dubbscracked gasoline

Why not tell him?

There's a chance for refiners to cash in on the Dubbs process in selling gasoline as well as in making it—winning new customers and holding old ones

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

THE OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published Weekly by

THE PETROLEUM PUBLISHING COMPANY

114-16 West Second Street, Tulsa, Oklahoma

P. C. LAUINGER, President
JOHN M. EGAN, General Manager
JAMES McINTYRE, Editor
ANDREW M. ROWLEY, Managing Editor
W. T. ANDERSON, Associate Editor
C. O. WILLSON, Refinery Editor

Established 1910 by PATRICK C. BOYLE

E. KLAPPENBACH, Advertising Manager
L. G. E. BIGNELL, Petroleum Engr. Editor
C. K. FRANCIS, Ph.D., Technical Editor
W. T. ZIEGENHAIN, Associate Editor
THOMAS F. SMILEY, Associate Editor
M. F. BALDWIN, Circulation Manager

Branch Editorial Offices

CANADA, Victor Lauriston — LOS ANGELES, L. P. Stockman — OIL CITY, Robert C. Conine
DENVER, Tolbert R. Ingram — NEW YORK, C. O. Willson — SHREVEPORT, J. R. Crumpton
FT. WORTH, L. E. Bredberg — MICHIGAN, Paul A. Elliott — TOLEDO, George A. Whitney
HOUSTON, Nell Williams — WASHINGTON, Hugh D. Mallon
CHICAGO — PITTSBURGH

Branch Advertising Offices

NEW YORK CITY, C. L. Cain — CHICAGO, C. R. Farmer — CLEVELAND, Howard Markt
HOUSTON, Paul T. Putnam — LOS ANGELES, J. H. Tinkham

(For representatives' complete addresses, see contents page)

Member, Audit Bureau of Circulations

Much Better Off

President Roosevelt's question to his radio audience "Are you better off than you were a year ago?" is answered for the oil industry by Administrator Ickes in his review of the year under the code.

Ordinarily, reports from political administrators are subject to heavy discount but the oil industry will find no exaggerated claims in Mr. Ickes' statement. It is a plain record of conditions and facts which everyone can test by his own experience.

The code, it is true, has failed to realize the wilder expectations attending its launching. It has not wholly achieved even the more moderate hopes of the less sanguine. But, unquestionably, the industry is much better off than it was a year ago.

Candor, however, must compel recognition of the fact that the improvement has been based upon the readjustment of the crude price in anticipation of the application of the code rather than upon direct effects from the code itself.

The oil administration has done all it could to assist in curbing overproduction of crude but it has been thwarted by legal and political obstructions. Its influence has been a valuable factor in promoting the curtailment policy but so far it has not been able to do much to enforce it.

Unfortunately, the improvement in the crude price was not matched by a proportionate improvement in the gasoline price. The inability to control crude production and the innumerable difficulties which arose over the marketing provisions of the code, delaying concerted action, kept the refined market unstable.

It has been only within the past two weeks that marketing agreements have been put into effect in California and East Texas and the first signs of a healthier gasoline price structure are just becoming apparent.

As both these agreements contain requirements for curbing excess crude production they may prove a workable system of stabilization, encouragingly the more important because primarily a method of self-regulation by the industry.

Upon the outcome will largely depend the future shaping and operation of the code, as well as the fate of the industry in the next session of congress.

If the production of crude and gasoline can be kept down to demand most of the marketing problems which have been occupying the time of the oil administration and the industry for the past year can be straightened out much more promptly.

The prolonged discussions of every phase of the oil business which have been going on for the past twelve months must have broadened the viewpoint of the industry, must, to some extent, have familiarized everyone with the other fellow's problems.

The oil business has been placed under examination, not as a one man or one company proposition, but as a whole. The general effect of competitive practices, previously considered only from the point of self-interest, were revealed under the microscope of plain dealing.

The hardest lesson to learn, possibly, was that two wrongs can not make a right, or that virtue is not always all on one side.

If consideration of the code has accomplished that better understanding, and there is no doubt that it has, it justifies all that Administrator Ickes says of it.

Under the initial impulse of the crude raise based on hope from the code the industry has snapped out of the depression and made a long step toward recovery. That faith in the outcome has been strengthened by the California and Texas agreements, by the steady increase in demand, and by the improving situation.

Those who ask for concrete results in cold cash are referred to Mr. Ickes' figures. A year ago oil was three barrels for a dollar instead of a dollar a barrel. That represents a half billion dollars more to the industry on 750,000,000 barrels.

More money for less oil. Or to put it another way the industry would have had to produce 2,250,000,000 barrels, three times the market demand, at a year ago prices to obtain the same money.

Oil industry workers, including 100,000 unemployed a year ago, drew $150,000,000 more pay, adding that much to the purchasing power of the country and increasing other business.

And the cost to the consumer has been only from one-half to 1 cent a gallon over the lowest prices in years, prices that Mr. Ickes calls ruinously low, and still below the price of 1926.

Strengthening of the gasoline structure now under way will impose no hardship on the public and is absolutely necessary to hold the gains the oil industry has made in a memorable year.

With Open Mind

The Congressional sub-committee named to investigate the oil situation naturally made Tulsa its starting point, coming direct to the capital of the oil industry. The impression gained from the visitors is that, contrary to many congressional inquiries, usually started with a strong bias, this one is being conducted by men with open minds.

There was none of the customary declamations and denunciations familiar in merely political probes. The members frankly announced their sole purpose to become acquainted with the industry preparatory to later hearings in the fall.

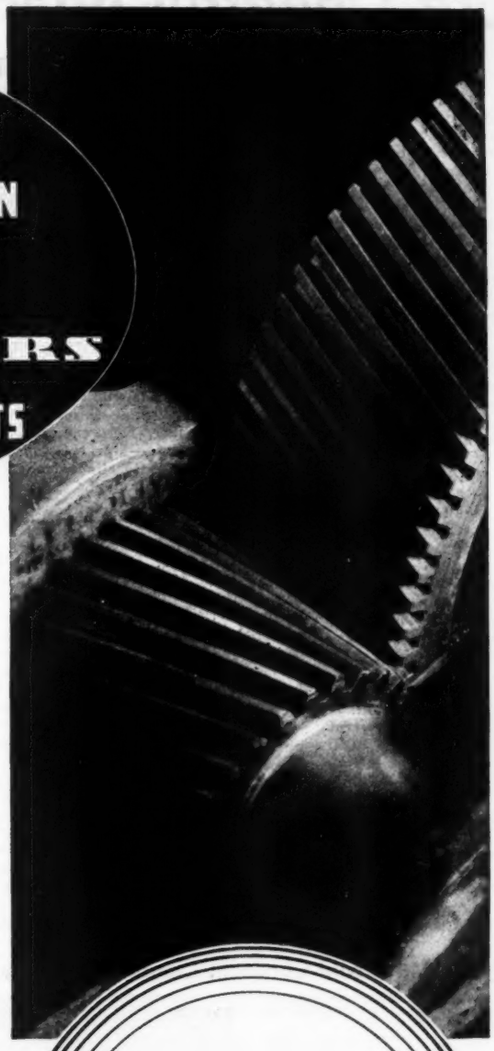
Chairman Cole's comment that the disasters predicted if the Thomas-Disney bill failed had not followed, is met by the unexpected rallying of the industry in the effort to avert them. There was little hope when the bill was before Congress that any sort of agreement would be attainable in California and East Texas.

It is now hoped that this readiness to adopt self-regulation will be successful enough to avoid any necessity for Federal control as sweeping as seemed inevitable when the Thomas-Disney bill was before the Congress.

It should be constantly remembered that there are wide degrees in Federal control, that it may be either, as Mr. Marland said, a life preserver or a strait-jacket, depending upon the conditions in the industry.

The House Committee should not be given the impression that the existing oil situation is normal. It is only because it is abnormal that emergency remedies were sought. When the emergency passes the oil industry should be free to return to normal operations like any other business.

WHY WESTINGHOUSE HAS STANDARDIZED ON SINGLE HELICAL GEARS FOR OIL PUMPING UNITS



FORTY years of gear manufacture has given Westinghouse vast experience in the design and application of every type of gear. And, naturally, with this background Westinghouse engineers have reached a definite conclusion as to which type of gear is best fitted to meet the rigorous requirements of oil pumping service.

For a number of years Westinghouse has standardized on Helical gears . . . *and here are the principal reasons why:*

1 They are cut by the hobbing process, conceded to be the most accurate method of producing gear teeth.

2 Uniform strength throughout the length of the tooth results in uniform deflection, uniform loading and hence uniform wear.

3 The low helix angle results in less travel, and therefore lower impact stresses, for a given amount of back lash. *This factor is especially important where the torque reverses twice every stroke as in oil pumping.*

4 Floating pinions are not required. Anti-friction bearings are used throughout, thus maintaining correct gear center distances, and appreciably reducing starting and running friction.

5 Adequate lubrication of gearing and bearings is assured at all times. Single helical gears operate equally well in either direction.

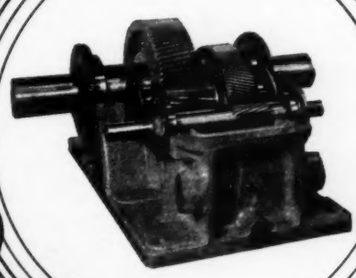
Helical gearing and anti-friction bearings are two outstanding features of Westinghouse OP Gear Units.

DISTRIBUTED BY

OIL WELL SUPPLY COMPANY

(SUBSIDIARY OF UNITED STATES STEEL CORPORATION)

Westinghouse



All Westinghouse gear units for oil pumping utilize Single Helical gearing, heat-treated for maximum strength and wear-life. The illustration shows the gearing and the substantial Timken bearings used in the OP-20 Unit.

Westinghouse Electric & Manufacturing Company
Room 2-N East Pittsburgh, Pa.

Send copy of "Westinghouse Gear Units for Oil Well Pumping."

Name.....

Company..... T 85071

Address.....OAGJ 7-12-34

Operation of Gasoline Purchasing Plan Creates More Cheerful Market in Group 3 District

By T. F. SMILEY

Whatever may be the eventual outcome of the plan put into operation by the petroleum administration to remove the menace lurking in East Texas, it is safe to say that at the present moment the Oklahoma (Group 3) market is in a more cheerful mood than it has known for months. A prodigious task, calling for keen business judgment, patience and finesse, has been accomplished.

The plan, with which the trade already has been made familiar, looks to clearing East Texas of excess stocks of gasoline through their purchase by large, established companies under a contract which stipulates that the refiner thereafter must keep his output within the allowable fixed by the Planning and Co-ordination Committee and that he will neither produce crude illegally nor transport or refine any so produced.

Although for reasons not easily understood, or no reason at all except habit, the East Texas negotiations have been attended by much secrecy, it is ascertained that 86 to 88 per cent of the refiners in that area in point of plant capacity have signed contracts disposing of their gasoline already in storage and of their current production.

Gasoline Movement Under Way

It is stated that movement of 300 to 400 cars of gasoline from the East Texas area already has begun in fulfillment of storage contracts and that 1,500 to 1,600 cars will be shipped from production throughout July.

Howard Bennette, national co-ordinator of refinery operations, who was in East Texas several weeks in furtherance of the gasoline purchase plan, devoting much time to personal conferences with refiners, has returned to Washington. A. V. Bourque, Tulsa, secretary of the Western Petroleum Refiners Association, who worked with Mr. Bennette, is still in Tyler, overseeing details in connection with getting the plan well under way.

One of the chief difficulties involved in persuading East Texas refiners to accept the plan was the requirement that they adhere to refinery allocations, which hitherto are said often to have been ignored. In many cases it was contended the allocations were unfair. Mr. Bennette and Mr. Bourque are reported to have met this contention by admitting the probable need of adjustments, but at the same time urging the refiner to sign the proffered contract as the surest means of preventing complete demoralization of the market. In case of an unjust allocation the refiner was advised to appeal to the review board, assuring him of prompt attention.

An important factor in gaining enough signers to insure operation of the plan was the spirit of frankness and unanimity displayed by the 21 major companies constituting the purchasing group. It was recognized that these companies in many instances did not want the gasoline they were contracting to take, having plenty of their own, but that they were doing just what they were asking the East Texas refiners to do, namely, foregoing immediate and probably illusory profits in order to eliminate a situation which threatened further chaos.

The first contracts for sale of storage gasoline of U. S. Motor specification were at 3½ cents a gallon. The price paid for current production will be determined in the customary way. The majors are reported to have bought "every gallon of gasoline offered." There is reason to believe some of the East Texas refiners, foreseeing a better market, have not disposed of all their gasoline. Any motor fuel thus withheld does not constitute a market threat, however, for at such time as it is offered it will be absorbed by the majors in the buying group.

The relatively few refiners who have refused to sign contracts are believed to have placed themselves in an extremely vulnerable position strategically. Although it is the announced intention of the majors to buy the output of these holdouts too in order to assure success of the stabilization plan, these recalcitrants inevitably label themselves as willing to reap the benefits of a plan for the common good, but unwilling to do their part toward the success of the plan. It is pointed out too that the task of detecting and punishing hot-oil offenders is likely to be more simple from now on.

Lively Buying of Natural Gasoline

Lively buying of natural gasoline was seen this week and prices were showing an upward trend. Quotations were an eighth-cent or more above those of last week. The buying was said to be largely to meet the demands for immediate consumption and in anticipation of higher prices soon.

Competition between the East Coast and the North for burning oils is saving the market in these products from seasonal dullness. In both areas the material is wanted for storage against the demand that will appear with the arrival of cold weather next fall. Specifications call for a flash of 175 or lower and good odor. Bids range from 2⅛ to 2¼ cents resale, which is slightly under current price levels, with the result that while there is a large volume of inquiries, the quantity actually bought for storage has been relatively small. Price concessions

(Continued on Page 26)

Refined Oil Market Barometer

Interest centered largely upon progress of the gasoline purchasing plan designed to keep the East Texas area clear of excess stocks. Markets in several districts responded to the East Texas experiment by displaying a firmer tone and rising quotations. Further increase in strength was looked for. Most of the other petroleum products were settling into their season of summer dullness, except for active buying of natural gasoline in the Mid-Continent territory.

Mid-Continent—Both refinery and natural gasoline stronger. Other products listless.

East Coast—Motor fuel market looks better, with indications pointing to record buying of fuel oils for next fall.

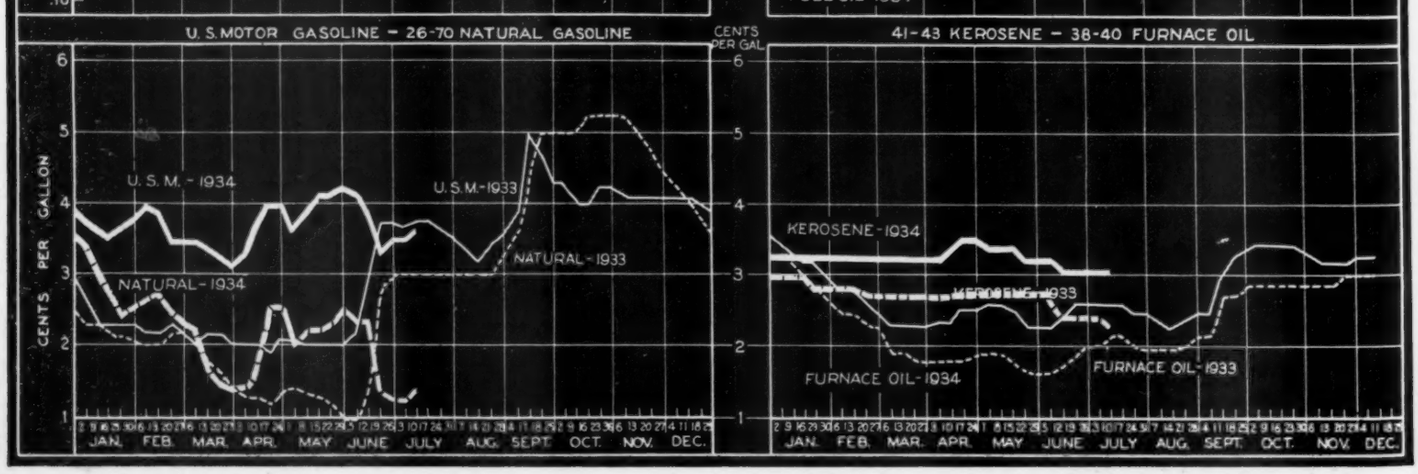
Gulf Coast—Dullness pervades almost entire market. No price changes.

Pennsylvania—Gasolines holding. Neutrals strong. Bright and cylinder stocks weaker. Kerosene sagging seasonally.

California—Market strong but without affecting prices materially.

Chicago—Gasoline stronger and more active. Kerosene firm. Fuels slow. Naphthas quiet.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Feeling Improves in Eastern Refined Oil Market With Consumption Showing Greater Increase

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, July 9.—A better feeling in regard to the motor fuel market has been apparent in this area over the past few days. This change in attitude apparently is due more to the fact that none of the adverse developments predicted the latter half of June has materialized rather than any definite indications of improvement in the general oil conditions which determine market trends in this territory.

A month ago when it became apparent that the Ickes control bill would not be passed by Congress and hot oil production was increasing in East Texas, predictions of a general collapse in prices were heard in all sections of the trade in this territory. It is now known that buyers due to this attitude were able to secure price concessions, especially on contract material over the remainder of the year. Since the first of the month there has been a more optimistic attitude in regard to the markets for crude oil and gasoline based largely on the belief that the administration at Washington and the state authorities in Texas will be able to prevent the dumping of gasoline and end the excess production of crude petroleum.

This better feeling has been aided over the past few days by heavy contract movements of gasoline. Based on demand at refineries, gasoline consumption aided by the July 4 holiday, has materially improved since the first of the month. The larger refiners who have a direct check on demand through their company-owned marketing facilities state that the seasonal increase in consumption has been greater than last year with indications that the tourist business will be better than any summer period since 1930. It is said that the resort points in New England, New York and Pennsylvania have experienced a general improvement in business with a continuance of this situation assured for July and August.

Two refiners who do a large jobber business on contracts also reported a substantial increase in demand over the past 10 days. One company executive explained that some of these jobbers curtailed their purchases the latter part of June in expectation of lower prices. This curtailment, coupled with a heavy demand over the Fourth of July, had brought requests for immediate shipments to take care of depleted stocks.

So far as tank car prices on gasoline are concerned, the quotations of the major distributors are unchanged. A few sellers are offering a low octane U. S. Motor grade at 6 to 6¼ cents. The market for this grade appears to be the weakest of the list. It is said that a comparable grade has been offered at the Gulf Coast at 4½ to 4¾ cents. Material available at this price at the Gulf Coast refineries and terminals can be brought around to the East Coast points and sold profitably under 6 cents. The price for small barge shipments is generally one-fourth cent less than the tank car price of 5¾ to 6 cents.

The market on middle octane gasoline at 6¼ to 6½ cents and 65 octane and above at 6½ to 6¾ cents is steady. Jobbers buying unbranded gasolines from refiners generally insist on either the middle or top octane material and this lack of demand for the lowest octane fuel accounts in part for the price weakness in that grade. The major refiners in their advertising and general sales campaigns are all pushing the sale of their regular branded grades which in most cases are ethylized. These branded grades are quoted in the New York harbor area at 7 to 7¼ cents. There has been some interrefinery buying of gasoline in this territory. This buying is usually confined to the highest octane material due to the fact that it is ethylized before it is sold to consumers and the buyers wish to use the minimum amount of tetraethyl fluid.

Light Fuels

One company which has made a survey of conditions covering a large part of New England, New York, Pennsylvania and Atlantic Seaboard states extending to North Carolina is confident that the demand for furnace oil distillates, range oils and kerosenes used as fuels will establish a new record for the consuming season starting next fall. This survey took into consideration the available figures covering new burner units with estimates as to the probable installations over the next four months. It showed that in some cities the number of new installations were 100 per cent greater than the first few months of 1933. The only uncertainty in this prediction is due to the threat of some home owners to remove their burners and return to coal or gas due to the higher prices for oil. Those in charge of the survey, however, did not take these threats seriously at present, pointing out that the increased cost in most cases does not exceed 1 to 1½ cents per gallon. Figuring 2,500 gallons for the season in a home burner installation this additional cost is only $25 to $37.50. While the top price provisions of the contracts permit the furnace oil distributors to charge higher prices if posted quotations are boosted later in the season, a majority of the trade do not believe that prices to consumers will show much change either up or down for the duration of the yearly contracts.

There was a heavy demand for range oil and kerosene used as fuel for range burners last season and this same survey indicates an increase for the coming season. Should an increase of 10 to 15 per cent in demand for light fuels and kerosene materialize this year it is apparent that refiners in this territory will need all of their production and supplementary supplies will have to be obtained from the Gulf Coast and other points. There is the additional fact that starting in the fall an effort will be made to curtail refinery operations to prevent a large accumulation of gasoline stocks during the fall, winter and spring months such as materialized last year. It is known that a curtailment program covering the entire country is in the making at this time. If it is successful this would also tend to restrict the quantity of light fuel oil available.

Heavy Fuels

It is understood that the same survey was not so optimistic in regard to the probable demand for heavier fuels which come under the general classification of industrial and marine residual oils. The higher prices for these products is said to have reduced the demand from several sources. In the marine end some of the bunkering business has shifted to points outside the United States due to the 21-cent per barrel import tax. The industrial demand in recent weeks has declined due to a slackening in industrial activity as wells as a return to coal by several manufacturing establishments. The supplies of these heavy oils along the Atlantic Seaboard, however, are not large and the possibility of a smaller demand is not interpreted as pointing to lower prices this fall and winter.

Prices on all grades of fuels and kerosene are unchanged. Most refiners are asking 5½ cents for water white kerosene in tank car lots in the New York area with some material available at 5¼ cents. There is little spot buying of kerosene or the first three grades of furnace oil. This is in contrast to the situation a year ago when there was considerable speculative buying due to the expectation of higher prices later in the season. Several refiners are quoting 5½ to 6 cents for the No. 1 furnace oil and 5 cents for the Nos. 2, 3 and 4 grades. Small spot sales have been made from one-fourth to one-half cent under these tank car quotations.

Bunker fuel oil in New York harbor is unchanged at $1.30 per barrel with the same quotation for the No. 6 industrial oil. The No. 5 grade is quoted at $1.50 per barrel. This is an increasing demand for Diesel fuel at $1.95 per barrel for the marine trade and 4½ to 5 cents per gallon in tank car lots. The spread of Diesel power for boats and stationary engines on land point to a steady increase in the demand for the various grades of these fuels. Some confusion exists as to the desirable specifications in fuels for Diesel engines and an effort is now being made to secure standard specifications for the several grades required for the various types of engines.

Lubricating Oils

Although actual motor oil consumption has arrived at the peak point of the year and will continue heavy over the next 90 days the refinery market is not as strong as it was one to three months ago. The refinery demand is two to four months ahead of the retail market, refiners and compounders usually covering their requirements several months in advance of the actual sales to consumers. Many of the compounders have stocks covering their blending requirements and new business at refineries has slowed down. The same situation exists in export markets.

Domestic prices on bright stocks and neutral oils and bulk prices for export

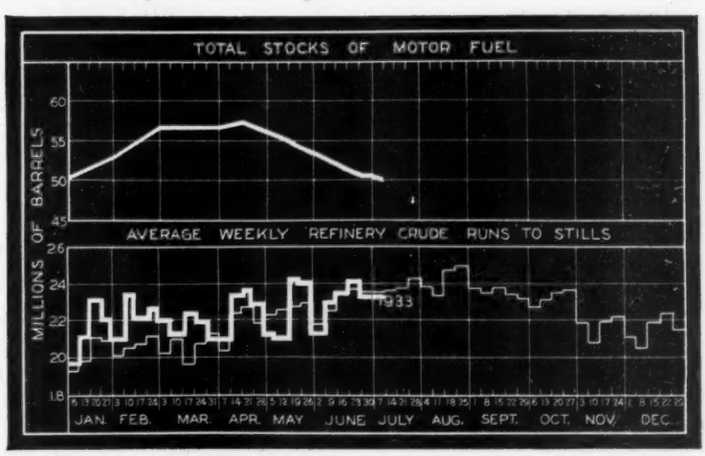
(Continued on Page 43)

American Petroleum Institute Weekly Refinery Statistics

Week Ending July 7, 1934

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	458,000	15,636,000	8,210,000
Appalachian	93.3	92,000	1,593,000	956,000
Indiana, Illinois, Kentucky	94.6	325,000	8,269,000	3,756,000
Oklahoma, Kansas, Missouri	83.7	240,000	5,295,000	3,482,000
Inland Texas	47.6	86,000	1,015,000	1,559,000
Texas Gulf	97.5	468,000	3,984,000	7,246,000
Louisiana Gulf	96.4	126,000	1,099,000	1,596,000
North Louisiana and Arkansas	83.7	58,000	251,000	478,000
Rocky Mountain	66.7	32,000	1,032,000	631,000
California	96.9	456,000	12,190,000	78,419,000
Total United States	89.7	2,341,000	50,364,000	106,333,000

Note: Finished motor stocks shown in graph and in table include those at refineries, at bulk terminals and in pipe lines, but do not include 5,000,000 to 7,000,000 bbls. of unfinished gasoline which could be reprocessed quickly.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

Quotations are exclusive of the Federal tax of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	July 10		July 3	
U. S. Motor grades:				
Below 60 octane	.03⅝	.03⅞	.03½	.03¾
60-64.9 octane	.04⅜	.04⅞	.04½	.04¾
65-70 octane	.04⅞	.05⅛	.04¾	.05
60-62 400 grades:				
Below 60 octane	.03¾	.04	.03½	.03¾
60-64.9 octane	.04¾	.05	.04⅝	.04⅞
65-70 octane	.05	.05¼	.04⅞	.05⅛
64-66 375	.04⅛	.04⅝	.04	.04¼
68-70 360	.04¼	.04½	.04⅛	.04⅜
NORTH TEXAS—				
U. S. Motor grades:				
Below 60 octane	.03⅜	.03⅝	.03¼	.03½
60-64.9 octane	.04⅜	.04⅝	.04¼	.04½
65-70 octane	.04¾	.05	.04⅝	.04⅞
60-62 400	.03½	.03¾	.03⅜	.03⅝
64-66 375	.04⅛	.04¼	.04	.04¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04⅛	.04⅜	.04	.04¼
60-64.9 octane	.05¼	.05½	.05⅛	.05⅜
65-70 octane	.05⅜	.05⅝	.05¼	.05½
60-62 400	.04¼	.04½	.04⅛	.04⅜
68-70 360	.04⅜	.04½	.04¼	.04⅝
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04⅛	.04⅜	.04	.04¼
60-64.9 octane	.05¼	.05½	.05⅛	.05⅜
65-70 octane	.05⅜	.05⅝	.05¼	.05½
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 60 octane	.03¾	.04	.03½	.03⅝
60-64.9 octane	.04½	.04⅜	.04⅜	.04½
65-70 octane	.04¾	.05	.04⅝	.04¾
60-62 400	.03¾	.04	.03⅝	.03¾
64-66 375	.04	.04¼	.04	.04⅛
68-70 360	.04¼	.04½	.04¼	.04⅜
Aviation fighting grade	.05	.05¼	.04⅞	.05⅛
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.05⅝	.05¾	.05⅝	.05¾
60-64.9 octane	.06½	.06⅝	.06½	.06⅝
65-70 octane	.07	.07⅛	.07	.07⅛
68-70 350	.06½		.06½	
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.06	.07½	.06	.07½
58-60 400	.07	.09	.07	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York	.06	.06¼	.06	.06¼
Baltimore	.06	.06¼	.06	.06¼
U. S. Motor, 60-64 octane:				
*New York (Bayonne)	.06¼	.06½	.06¼	.06½
Philadelphia	.06½	.06¾	.06¼	.06¾
Boston	.0645	.0670	.0645	.0670
Baltimore	.06¾	.06½	.06¼	.06½
Charleston, S. C.	.06¼	.06½	.06¼	.06½
U. S. Motor, 65 and above:				
*New York (Bayonne)	.06½	.06¾	.06½	.06¾
Philadelphia	.06¾		.06¾	
Boston	.0670	.07	.0670	.07
Baltimore	.06½	.06¾	.06½	.06¾
Charleston, S. C.	.06½	.06¾	.06½	.06¾

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04¾	.05	.04¾	.05
60-64.9 octane	.05	.05¼	.05	.05¼
65 octane and higher	.05¼	.05½	.05¼	.05½

Naphthas

	July 10		July 3	
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05⅜		.05⅜	
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.03¾	.04	.03¾	.04
Cleaners' naphtha, 56-58 gr., 260 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p.-250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 140 i.b.p.-200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	July 10		July 3	
Grade 26-70	.01⅜	.01½	.01¼	.01½
Grade 18-55	.01⅞	.02¼	.01¾	.01⅞
Low vapor pressure grades:				
15 lb. v.p. (max.)	.02⅜	.02¾	.02¼	.02½
11 lb. v.p. (max.)	.02⅞	.03	.02¾	.02⅞
NORTH TEXAS—				
Grade 26-70	.01¼	.01⅜	.01⅛	.01¼
Grade 18-55	.01¾	.01⅞	.01⅝	.01¾
Low vapor pressure grades:				
15 lb. v.p. (max.)	.02¼	.02⅜	.02⅛	.02¼
11 lb. v.p. (max.)	.02¾	.02⅞	.02⅝	.02¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.01¾	.01⅞	.01⅝	.01⅞
CALIFORNIA—				
75-78 375	.05½	.06½	.05½	.06½

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	July 10		July 3	
41-43	.03⅛	.03⅜	.03⅛	.03⅜
42-44	.03⅜	.03⅝	.03⅜	.03⅝
NORTH TEXAS—				
40-41	.02⅞	.03⅛	.02⅞	.03⅛
41-43	.03	.03¼	.03	.03¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03¼		.03¼	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03⅜	.03½	.03⅜	.03½
PENNSYLVANIA (inland refineries)—				
45	.04⅜	.04½	.04½	.04⅝
46	.04½	.04¾	.04⅝	.04⅞
47	.04⅝	.04⅞	.04¾	.05
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03⅛	.03¼	.03¼	.03¼
42-44	.03⅜	.03½	.03¼	.03½
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04¾	.05¼	.04¾	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼	.05½	.05¼	.05½
GULF COAST (domestic)—				
41-43	.04⅜	.04½	.04⅜	.04½

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	July 10		July 3	
Breeze (screenings)	5.00		5.00	
Pile run	5.00		5.00	
Direct from still	6.00		6.00	
Lump and egg	7.00	8.00	7.00	8.00

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	July 10		July 3	
32-36 straw	.02⅜	.02½	.02⅜	.02½
36-38 straw	.02½	.02⅝	.02½	.02⅝
35-40 straw	.02⅝	.02½	.02½	.02¾
38-40 prime white	.02½	.02⅝	.02½	.02¾
NORTH TEXAS—				
38-40 straw	.02½	.02¾	.02½	.02¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.02⅞	.03	.02⅞	.03
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.02⅝	.02¾	.02⅝	.02¾
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02¾	.02½	.02⅜	.02½
38-40 straw	.02⅝	.02⅝	.02⅜	.02⅝
38-40 prime white	.02½	.02⅝	.02½	.02¾
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05¼	.05½	.05¼	.05½
32-36 (No. 2 grade)	.04¾	.05	.04¾	.05
21 industrial (No. 4 grade)	.04½	.05	.04½	.05

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gallon; Diesel and fuel oils per barrel)

OKLAHOMA (Group 3)—	July 10		July 3	
32-36 gas oil cracking stocks	.02⅛	.02¼	.02⅛	.02¼
U.G.I. gas oil	.02¼	.02⅜	.02⅛	.02⅜
32-36, zero to 15 gas oil	.02⅜	.02½	.02⅜	.02½
28-30 No. 3 burner oil	.95	1.00	.95	1.00
28-30, zero to 10 fuel oil	.90	.95	.90	.95
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.75	.80	.75	.80
20-22 fuel oil	.67½	.70	.67½	.70
Below 16 fuel oil	.62½	.65	.62½	.65
NORTH TEXAS—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
22-26 fuel oil	.67½	.70	.67½	.70
Below 20 fuel oil	.57½	.62½	.57½	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
32-36 gas oil, zero	.02½	.02⅝	.02½	.02⅝
32-36 gas oil	.02⅜	.02½	.02⅜	.02½
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02⅝	.02½	.02⅝
32-36 gas oil	.02⅜	.02½	.02⅜	.02½
14-16 fuel oil	.70	.75	.70	.75
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.02⅛	.02¼	.02⅛	.02⅜
28-30 zero to 10, fuel oil	.97½	1.02½	.97½	1.02½
26-28 zero to 10, fuel oil	.87½	.92½	.87½	.92½
22-26 zero to 10, fuel oil	.77½	.82½	.77½	.82½
18-22 zero to 10, fuel oil	.62½	.67½	.62¼	.67½
Below 18 fuel oil	.57½	.62½	.57½	.62½

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.04		.04⅛	.04¼
CALIFORNIA—				
30-34 gas oil per bbl.	1.05	1.15	1.05	1.15
27 plus Diesel	1.05	1.15	1.05	1.15
27 plus Diesel (bunkers)	1.13	1.25	1.13	
12-16 (bunker at tidewater)	.80	.85	.80	.85
10-16 (cargo lots)	.66	.75	.65	.75
12-17 (tank cars)	.60	.75	.60	.75
10-17 (inland refineries)	.55	.65	.55	.65
GULF COAST—				
28-30 gas oil	.03½	.03¾	.03½	.03¾
28-30 Diesel (bunkers)	1.80		1.80	
Bunker C (bulk cargoes)	.95	1.00	.95	1.00
Bunker C (bunkers)	1.05	1.10	1.05	1.10
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04½	.05	.04½	.05
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
28-30 Diesel (tank cars)	.04¾	.05	.04¾	.05
*Bunker C (to ocean-going ships in N. Y. harbor)	1.30		1.30	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	July 10		July 3	
Zero to 10 Cold Test:				
150-3	.10		.10	
180-3	.11¼		.11¼	
180-4	.10¾		.10¾	
200-3	.11¾		.11¾	
200-4	.11¼		.11¼	
240-3	.13¾		.13¾	
240-4	.13¼		.13¼	
280-3	.14¾		.14¾	
280-4	.14		.14	
300-3½	.15¼		.15¼	
400-4	.17¼		.17¼	
100-2 paraffin oil	.05¾		.05¾	
15-30 Cold Test:				
200-3	.10¾		.10¾	
200-4	.10¼		.10¼	
240-3	.12¾		.12¾	
240-4	.12¼		.12¼	
280-3	.13¾		.13¾	
280-4	.13		.13	
GULF COAST—				
Pale Oils:				
200-3	.07½		.07½	
300-3	.08	.08¼	.08	.08¼
500-3½	.09	.09¼	.09	.09¼
750-3½	.09½	.09¾	.09½	.09¾
1,200-3½	.10	.10¼	.10	.10¼
2,000-4	.10¼	.10½	.10¼	.10½
Red Oils:				
200-5-6	.06½		.06½	
300-5-6	.07	.07¼	.07	.07¼
500-5-6	.08	.08¼	.08	.08¼
750	.08½	.08¾	.08½	.08¾
1,200-5-6	.09	.09¼	.09	.09¼
CALIFORNIA—				
Pale Oils:				
100-2½-3	.23	.25	.23	.25
200-2½-3	.23	.25	.23	.25
300-3-3½	.23	.25	.23	.25
350-3-4	.23	.25	.23	.25
400-3-4	.23	.25	.23	.25
450-3-4	.23	.25	.23	.25
550-3-4	.23	.25	.23	.25
600-3-4	.23	.25	.23	.25
Red Oils:				
200-4-5	.23	.25	.23	.25
300-5-6	.23	.25	.23	.25
350-5-6	.23	.25	.23	.25
400-5-6	.23	.25	.23	.25
450-5-6	.23	.25	.23	.25

500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	.23	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVANIA—				
150 vis. at 70° F., 3 color; 400-405 flash:				
Zero pour test	.25½	.26	.25½	.26
10 pour test	.24½	.25	.24½	.25
15 pour test	.24	.24½	.24	.24½
25 pour test	.23	.23½	.23	.23½
180 vis. at 70° F., 3 color:				
25 pour test	.26½	.27	.26½	.27
200 vis. at 70° F., 3 color:				
Zero pour test	.31½	.32	.32	.33½
10 pour test	.30½	.32	.30½	.32
15 pour test	.30	.30½	.30	.30½
25 pour test	.29½	.30	.27	.28

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	July 10		July 3	
Bright Stocks:				
190-200 D	.25¾		.25¾	
150-160 D, 0-10	.23		.23	
150-160 D, 10-25	.22½		.22½	
150-160 25-40	.22		.22	
150-160 E	.22		.22	
Steam refined:				
630 light green (treated)	.14½		.14½	
600 light green (untreated)	.07	.09	.07	.09
600 dark green (untreated)	.05	.08	.05	.08
PENNSYLVANIA—				
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):				
10 pour test	.28	.28½	.28	.28½
15 pour test	.27½	.28	.27½	.28
20 pour test	.27	.27½	.27	.27½
25 pour test	.26½	.27	.26½	.27
Steam refined:				
600	.16	.16½	.16	.16½
650	.19	.20½	.19	.20½
600 Pennsylvania flash	.20	.20½	.20	.20½
630 Pennsylvania flash	.24½	.25	.24½	.25
600 Warren E filtered	.20	.20½	.20	.20½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	July 10		July 3	
124-126 white crude scale	.03¼	.03⅜	.03¼	.03⅜
PENNSYLVANIA—				
122-124	.0360		.0360	
124-126	.0365		.0365	
NEW YORK HARBOR—				
Wax (a.m.p.) in bags fully refined:				
120-122	.0420	.0430	.0420	.0430
123-125	.0440	.0460	.0440	.0460
125-127	.0445	.0470	.0445	.0470
128-130	.0480	.0495	.0480	.0495
130-132	.05	.0510	.05	.0510
133-135	.0545	.0570	.0545	.0570
135-137	.0570	.0595	.0570	.0595
124-126 crude scale	.03¼	.03½	.03½	.03¾
Petrolatum in barrels in carload lots:				
Dark green	.01⅞		.01⅞	
Amber	.02⅞	.03	.02⅞	.03
Extra amber	.03½	.03¼	.03½	.03¼
Lily white	.06¾	.06⅞	.06¾	.06⅞
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾
CHICAGO (f.o.b. switching district)*—				
122-124 wax	.0490	.0500	.0490	.0500
125-127 wax	.0515	.0525	.0515	.0525
127-129 wax	.0530	.0540	.0530	.0540
130-132 wax	.0590	.0600	.0590	.0600
132-134 wax	.0615	.0625	.0615	.0625

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	July 10		July 3	
U. S. Motor	.04½	.04¼	.04¼	.04⅜
60-62 400	.04¼		.04⅝	
61-63 390	.04⅜	.04½	.04½	.04⅝
64-66 375	.04½	.04⅝	.04⅝	.04¾
LOS ANGELES, CALIF.—				
U. S. Motor grades:				
53-55 octane	.04	.04¼	.04	.04¼
55-65 octane	.04¼	.04½	.04¼	.04½
65-67 octane	.04½	.04¾	.04½	.04¾
67-69 octane	.04¾	.05	.04¾	.05
Above 69 octane	.05	.05¼	.05	.05¼
58-60 400 endpoint	.04¾	.05½	.04¾	.05½
KEROSENE				
GULF COAST—				
41-43 prime white	.04	.04¼	.04	.04¼
41-43 water white	.04⅛	.04¼	.04⅛	.04¼
44 water white	.04¼	.04⅜	.04¼	.04⅜
LOS ANGELES, CALIF.—				
41-43 water white	.04¼	.04¾	.04¼	.04¾
LUBRICANTS				
NEW YORK (f.a.s. in barrels)—				
Cylinder Stocks:				
600 Warren E	.27	.28	.27	.28
600 S.R. unfiltered	.25	.25½	.25	.25½
650 S.R. unfiltered	.27	.27½	.27	.27½
600 flash S.R.	.28	.28½	.28	.28½
630 flash S.R.	.32	.33	.32	.33
Bright Stocks:				
8 color	.33½	.34½	.34	.35
6½ plus color, in dilution	.32	.32½	.32½	.33
NEUTRAL OILS				
200-3 color	.35	.36	.35	.36
150-3 color	.29	.31	.29	.31
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
120-122 a.m.p.	.0405	.04¼	.0405	.04¼
123-125 a.m.p.	.0430	.0455	.0430	.0455
125-127 a.m.p.	.0440	.0465	.0440	.0465
128-130 a.m.p.	.04¾	.0490	.04¾	.0490
130-132 a.m.p.	.0495	.0505	.0495	.0505
133-135 a.m.p.	.0540	.0565	.0540	.0565
135-137 a.m.p.	.0565	.0590	.0565	.0590

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	4 Carson, Hutchinson, and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas, and Louisiana	9 Gulf Coast, Texas, and Louisiana	10 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Note.—Effective June 1, 1934, Texas Co. purchases Texas Panhandle crude on a sweet crude and sour crude basis. Panhandle sweet crude is paid for on a basis of the Gray County prices posted above, and Panhandle sour crude is paid for on a basis of Carson and Hutchinson County prices posted above.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 25°, 76 cents; 25-25.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 29°, 84 cents, excepting Phillex Oil Co., which begins with below 31° at 88 cents.

Column 1.—Effective September 29, Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phillex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; Oct. 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2.—Effective September 29, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3.—Effective September 29, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 13, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day Phillex Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phillex Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 6.—Effective September 29, by Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30, by Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7.—Effective September 29, by Stanolind Oil & Gas Co.

Column 8.—Effective September 29, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana: 20-20.9°, 84 cents with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 20°, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20° 70 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 20°, 80 cents, with 2 cents added for each degree upward to 34° and over at $1.10.

Column 9.—Effective September 30, Texas Co. (On September 29, Texas Co. had posted a schedule of 2 cents on each degree, but changed it on September 30.)

Column 10.—Effective September 29, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 33)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Stratman, Kans. (Sept. 29, 1933)	1.08
Corsicana (heavy) (June 17, 1933)*	.80
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.

*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard Glasscock, Mitchell (Sept. 29, 1933)	$.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933)	.75
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.65
Jones and Fisher Counties.	See gravity table.

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	(See gravity table)
Tomball (see note)*	$1.15
Livingston (Sept. 29, 1933)†	1.00
Cleveland (Jan. 11, 1934)	1.00
Greta (Sept. 29, 1933)	.85
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.85
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2, by Magnolia Petroleum Co., and November 10, by Stanolind Oil & Gas Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co. Cleveland (Liberty County), posted by Magnolia Petroleum Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	$.87
Mirando	.80
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co., in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co.

(Continued on Page 33)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

July 10, 1934

Taxes

The gasoline quotations given in the following tables include the 1 cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon, or 3 cents a gallon off retail prices, is permitted for purchases running between 3,000 and 10,000 gallons a month, and 2 cents a gallon off tank wagon, or 4 cents a gallon off retail prices, for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	18.0	20.0	6.0	10.0
Pueblo	18.0	20.0	6.0	13.0
Grand Junction	20.5	22.5	6.0	15.0
Casper, Wyo.	18.0	20.0	5.0	11.5
Cheyenne	18.0	20.0	5.0	13.0
Butte, Mont.	21.0	23.0	5.0	17.5
Billings	21.0	23.0	6.0	16.5
Helena	22.5	24.5	6.0	17.5
Great Falls	20.0	22.0	6.0	17.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Boise, Idaho	22.0	24.0	6.0	18.0
Twin Falls	22.0	24.0	6.0	18.0
Albu'que, N. M.	19.5	21.5	*7.0	13.0

*One-cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 2½ cents.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	15.3	17.3	4.0	9.7
Decatur, Ill.	16.0	18.0	4.0	10.2
E. St. Louis	16.0	14.5	4.0	9.5
Joliet	14.2	16.2	4.0	10.2
Peoria	14.7	13.9	4.0	10.2
Quincy	16.6	17.1	4.0	10.0
Davenport, Ia.	16.6	17.1	4.0	10.1
Des Moines	14.0	17.1	4.0	8.0
Mason City	16.6	17.1	4.0	9.3
Sioux City	12.9	13.9	4.0	9.7
Duluth, Minn.	17.2	19.2	4.0	10.4
Mankato	16.8	16.8	4.0	10.2
Minneapolis	15.4	17.4	4.0	10.4
LaCrosse, Wis.	18.3	20.3	4.8	10.8
Green Bay	17.7	19.7	5.0	10.2
Milwaukee	17.1	19.1	5.0	9.7
Madison	17.4	19.4	5.0	9.9
Detroit, Mich.	16.0	18.0	4.0	10.5
Grand Rapids	16.7	17.7	4.0	10.2
Saginaw	17.0	18.0	4.0	10.5
Evansville, Ind.	17.7	19.7	5.0	10.0
Indianapolis	17.9	19.4	5.0	10.2
South Bend	18.2	20.2	5.0	10.5
Fargo, N. Dak.	17.9	19.9	4.0	12.1
Huron, S. Dak.	18.8	20.8	5.0	11.4
Sioux Falls	18.4	20.4	5.0	10.9
Kans. C., Mo.*	15.0	15.0	4.0	9.2
Springfield	16.1	17.1	3.5	9.1
St. Louis	15.0	17.0	3.5	8.7
St. Joseph*	15.3	15.0	4.0	8.5
Wichita, Kans.	14.6	16.6	4.0	10.2
Bartlesville, Ok.	16.0	18.5	5.0	10.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Discounts to dealers, effective March 1, 1934: Undivided accounts, 4 cents a gallon on Red Crown Ethyl and Standard Red Crown, divided accounts, 3½ cents a gallon on Red Crown Ethyl and Standard Red Crown.

Stanolex Furnace Oil in Chicago

Effective June 27, 1934, f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents. Effective May 16, 1934, No. 2 (30-34 stw. zero), under 150 gallons, 7⅝ cents; No. 3 (22-26 zero), under 150 gallons, 7⅛ cents; No. 4 (12-16 zero), under 400 gallons, 6 cents; viscosity of No. 4, 30-115 at 100° F.; No. 5, under 400 gallons, 5⅝ cents. For deliveries above stated quantities deduct 1 cent.

Naphtha

	Tank wagon*
Oleum spirits	16.9
V.M.&P. naphtha	18.0
Cleaners' naphtha	18.0
Stanisol	18.0

*Prices include 3-cent Illinois tax, but not 1-cent Federal tax

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	19.0	22.0	7.0	14.5
Augusta	20.0	22.0	7.0	14.5
Macon	20.0	22.0	7.0	14.5
Savannah	20.0	22.0	7.0	14.0
Birm'ham, Ala.	21.5	23.5	8.0	12.0
Mobile	20.5	22.5	8.0	12.0
Montgomery	22.5	24.5	8.0	15.0
Jackson, Miss.	19.5	21.5	7.0	13.0
Vicksburg	17.5	19.5	7.0	14.0
Jack'ville, Fla.	20.0	22.0	8.0	11.5
Miami	20.0	22.0	8.0	13.5
Pensacola	18.0	20.0	8.0	13.5
Tampa	20.0	22.0	8.0	12.5
Lexington, Ky.	18.5	20.5	6.0	11.5
Covington	17.5	19.5	6.0	11.5
Louisville	18.0	20.0	6.0	11.5
Paducah	18.5	20.5	6.0	11.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	17.0	19.0	5.0	8.0
Fort Worth	17.0	19.0	5.0	8.0
Houston	16.0	18.0	5.0	8.5
San Antonio	16.0	18.0	5.0	8.5
El Paso	18.0	20.0	5.0	11.0
Muskogee, Ok.	16.0	18.0	5.0	7.5
Okla. City	15.0	17.0	5.0	8.5
Tulsa	16.0	18.0	5.0	8.5
Ft. Smith, Ark.	16.0	18.0	5.0	8.0
Little Rock	16.5	18.5	7.5	9.0
Texarkana	17.0	19.0	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	19.0	18.5	4.0	10.0
Newark	18.3	17.8	4.0	9.5
Annapolis, Md.	19.6	19.1	5.0	10.0
Baltimore	19.1	18.6	5.0	9.5
Cumberland	20.6	20.1	5.0	12.7
Wash'g'n, D. C.	17.2	16.8	3.0	11.5
Danville, Va.	21.7	21.2	6.0	12.9
Norfolk	20.2	19.7	6.0	11.3
Petersburg	21.0	20.5	6.0	11.4
Richmond	20.6	20.1	6.0	11.7
Roanoke	21.8	21.3	6.0	12.9
Charla'n, W. Va.	20.0	19.5	5.0	12.6
Parkersburg	19.3	18.8	5.0	11.2
Wheeling	20.0	19.0	5.0	12.2
Charlotte, N. C.	23.4	22.5	7.0	13.5
Hickory	23.7	23.0	7.0	13.7
Mt. Airy	23.7	23.2	7.0	13.8
Raleigh	23.2	22.5	7.0	13.3
Salisbury	22.5	21.0	7.0	13.6
Charleston, S. C.	21.2	20.7	7.0	11.3
Columbia	23.0	22.0	7.0	13.2
Spartanburg	23.4	22.4	7.0	13.5

Price basis to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	17.0	17.0	5.0	9.0
McCook	17.7	18.4	5.0	6.9
Norfolk	17.0	17.0	6.0	9.0
North Platte	17.8	18.0	5.0	9.0
Scottsbluff	18.3	18.3	5.0	9.0

Note—Discount to dealers, including any rentals under lease and agency agreements: Undivided accounts, Standard Red Crown and Red Crown Ethyl Gasoline 4 cents, Reliance (third brand) 3 cents, under service station price. Divided accounts, Standard Red Crown Ethyl Gasoline 3½ cents, Reliance (third brand) 2½ cents, under service station price. Discounts to consumers covered only by form CD-1, official commercial consumer contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	20.8	15.0	*7.0	†10.0
Baton Rouge	20.2	19.7	6.0	†12.0
Alexandria	21.1	19.0	*7.0	†10.0
Lafayette	21.3	20.8	*7.0	†12.0
Lake Charles	21.2	20.7	*7.0	†12.0
Shreveport	19.0	16.0	6.0	†12.0
Knoxville, Tenn.	24.7	19.5	8.0	13.0
Memphis	23.1	18.5	8.0	10.5
Chattanooga	24.5	19.5	8.0	12.0
Nashville	24.0	18.5	8.0	11.0
Bristol	24.5	17.3	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Price bases to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at dealer price less one-half cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero.
	Tank wagon†	Posted retail	Incl'ds tax	tank wagon
San Francisco	17.5	19.5	4.0	12.5
Los Angeles	15.5	17.5	4.0	12.5
Fresno, Calif.	18.0	20.0	4.0	14.0
Phoenix, Ariz.	20.0	22.0	6.0	‡16.0
Reno, Nev.	20.5	22.5	5.0	15.5
Portland, Ore.	20.0	22.0	6.0	13.5
Seattle, Wash.	20.0	22.0	6.0	13.5
Tacoma	20.0	22.0	6.0	13.5
Spokane	23.0	25.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5 cents state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Philadelphia, Pa.	15.5	17.5	4.0	10.0
Pittsburgh	16.0	18.0	4.0	10.0
Allentown	15.5	17.5	4.0	10.0
Erie	16.0	18.0	4.0	9.0
Scranton	16.0	18.0	4.0	10.0
Altoona	16.0	18.0	4.0	10.0
Dover, Del.	16.0	18.0	4.0	10.0
Wilmington	15.5	17.5	4.0	9.0
Springf'd, Mass.	15.5	17.5	4.0	8.75
Worcester	16.5	18.5	4.0	9.0
Hartford, Conn.	15.0	17.0	3.0	8.5
New Haven	14.5	16.5	3.0	8.5
Providence, R.I.	12.5	14.5	3.0	8.5

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

New York and Part of New England

STANDARD OIL CO. OF NEW YORK

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	16.5	17.5	4.0	9.0
Met. New York	16.5	17.5	4.0	8.5
Buffalo	17.5	18.5	4.0	9.0
Rochester	16.0	17.0	4.0	9.25
Syracuse	17.0	18.0	4.0	9.25
Boston, Mass.	16.5	17.5	4.0	8.5
Portland, Me.	18.2	19.2	5.0	8.75
Manch't'r N. H.	19.2	20.2	5.0	9.0
Burlington, Vt.	19.8	20.8	5.0	9.75

Commercial consumers allowed 2 cents discount below service station prices in accordance with CD-1 of oil industry's code.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Hamilton, Ont.	†21.5	24.5	6.0	17.5
Toronto, Ont.	†21.5	24.5	6.0	17.5
Brandon, Man.	30.3	32.3	7.0	21.8
Winnipeg, Man.	28.7	31.7	7.0	20.2
Regina, Sask.	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.8	34.8	6.0	24.3
Edmonton, Alta.	31.2	34.2	6.0	23.7
Calgary, Alta.	28.5	31.5	6.0	21.0
Vancouver, B.C.	†28.0	31.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. John, N.B.	27.5	31.5	8.0	21.0
Halifax, N. S.	26.0	30.0	6.0	21.0

Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all dealers 4 cents off service station price. All other provinces, open dealers 3 cents off service station price and 1 cent additional to 100 per cent accounts.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of New Jersey, June 28, reduced station gasoline one-half cent in Roanoke; June 29, advanced it 6.4 cents. June 20, reduced station gasoline one-half cent in Wheeling. July 2, advanced station gasoline 3.8 cents in Parkersburg.

Standard Oil Co. (Indiana), July 5, advanced tank wagon gasoline 1 cent and station gasoline 2 cents in metropolitan Chicago.

Standard Oil Co. (Nebraska), June 25, reduced tank wagon gasoline .2 cent and station gasoline 1 cent in Scottsbluff. June 30, reduced station gasoline 2 cents in Omaha.

Standard Oil Co. of Louisiana, June 29, reduced station gasoline 2½ cents in Shreveport. June 23, reduced station gasoline 1 cent in Chattanooga; June 24, reduced it 1 cent further. June 23, reduced station gasoline 1 cent in Knoxville; June 25, reduced it 1 cent further. June 25, advanced station gasoline 2½ cents in Nashville. June 25, advanced station gasoline 2½ cents in Memphis.

Standard Oil Co. of California, July 2, advanced tank wagon gasoline one-quarter cent in Los Angeles. Same date, reduced tank wagon and station gasoline 1½ cents in Phoenix.

Atlantic Refining Co., June 27, reduced tank wagon and station gasoline 1 cent in Wilmington; June 30, advanced each one-half cent. June 29, reduced tank wagon and station gasoline 1 cent in Providence.

Magnolia Petroleum Co., July 3, advanced tank wagon and station gasoline 2½ cents in Little Rock. July 5, advanced tank wagon kerosene 2 cents in Dallas and 1 cent in Fort Worth and Texarkana.

More Cheerful Market in the Group 3 District

(Continued from Page 22)

are said to have been made on spot sales for immediate delivery. Owing to the fact that the refiner must equalize freight differentials the East Coast marketers generally are favored over buyers in the northern states, the refiner being able to net about an eighth-cent more profit in the one case than in the other.

Kerosene was unchanged. Neutrals were steady. Bright and cylinder stocks were somewhat more settled than last week. Wax was weak and some manufacturers described themselves as "out of the market." Inquiries were said to be plentiful, but at prices too low to excite interest.

ANGLO-PERSIAN-GULF IN PERSIA

The Kuwait Oil Co. has been organized jointly by the Anglo-Persian Oil Co. and the Gulf Oil Corp. for petroleum exploration and exploitation of Kuwait, an independent Arabian state on the northwest coast of the Persian Gulf. Further to the south of Kuwait is Hasa, a large area over which the Standard Oil Co. of California holds prospecting rights, and is at present starting on a program of investigation. At the southern end of Hasa are the Bahrein Islands, where important oil deposits are now being exploited by the same company.

Hayden-Cartwright Act Seen as Oil Industry Aid

WASHINGTON, D. C., July 7.—The Hayden-Cartwright Act providing $522,000,000 for a three-year highway program and signed by the President is regarded as a distinct aid to the oil industry. J. E. Pennybacker, managing director of Asphalt Institute, pointed out that the provision for not less than 25 per cent of this year's direct grant of $200,000,000 to be used on secondary or feeder roads, should increase the consumption of gasoline through a great increase in improved country road mileage which has hitherto lagged far behind the great inter-urban road building program.

"The provision," stated Mr. Pennybacker, "authorizing at least $50,000,000 for farm-to-market roads, rural free delivery routes and public school bus routes is official recognition first, that low cost rural roads furnish more jobs than the high cost inter-city routes and second, that 70 per cent of American farmers are still on mud roads."

The rural road stipulation was somewhat modified by a last-minute proviso that the Secretary of Agriculture, upon request and a satisfactory showing from a state highway department, might give less than the stipulated 25 per cent for secondary roads. Notwithstanding, farm interests consider the situation more favorable than last year since a state is now required to show good and sufficient reason for not allotting the specified percentage to roads off the state highway system, and since the definition of feeder roads is carried in the act. The 1933 law pertaining to emergency highways under the NRA set no minimum, but merely provided that not more than 25 per cent should be spent for secondary roads. The present law is the first to set a minimum for this type of road. Under the old law 10 states have failed to allot 25 per cent of their federal funds for secondary roads.

The Hayden-Cartwright Act also authorizes regular Federal Aid of $125,000,000 a year, to be matched by the states, during 1936 and 1937. In addition the act gives $24,000,000 for forest, park, Indian reservations and main roads across public lands during the coming year and $23,000,000 a year is provided for the same purposes during 1936 and 1937.

Diversion of gasoline and motor license taxes from highway use is combated by the requirement that states must continue to use for road purposes at least the same portion of these revenues as they use for roads now, in order to be eligible for full participation in regular Federal Aid after June 30, 1935.

CANADIAN REGULATIONS

TORONTO, Ontario, July 9. — Considerable interest has been aroused by the results of government regulation of gasoline sales in the maritime provinces. Last year the Nova Scotia legislature passed a law to curtail extravagant practices in the marketing of gasoline and to prevent unnecessary duplication of retail marketing outlets. Nova Scotia was the first Canadian province to take steps in this direction.

Somewhat similar regulations became effective in the adjoining province of New Brunswick on June 21. The regulations in both provinces have been followed by reductions of 1½ cents a gallon in the retail price of gasoline; though the prices are still higher than in Ontario where the consuming population is much larger.

Officials of the major refining companies attribute the reduced prices to the regulations which have compelled sounder marketing practices. According to John McNeil, vice president of Imperial Oil, Ltd., the regulations prohibit unfair and unethical competitive practices. "These practices," he states, "have resulted in a continuously increasing burden of costs for gasoline marketers. The cost, of course, has to be passed on to the consumer. With the new regulations, unfair practices are eliminated, resulting in economies from which the consumer benefits."

Open Type Housing for Compressors and Pumps Minimizes Explosion Hazard

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., July 7.—The hazards of explosions and fires which are present around refinery and gasoline plant buildings where pockets of leaking gas might accumulate have been greatly minimized by an open type of housing which Shell Petroleum Corp. has used for the compression plant of the gas recovery system at its Houston refinery.

The compression plant recently was rebuilt following an explosion which damaged the original building, an all-enclosed structure which had been constructed along conventional designs. The new building type is particularly adaptable for use in those areas in which the climatic conditions are fairly uniform and comparatively warm the year around as on the Gulf Coast.

Advantages of an open building for such purposes can readily be noted. The safety factor, however, is of primary concern. In a building in which the sides are entirely open the sweep of air through it prevents any accumulation of gas in the event of leaks and consequently the men can work around the engines and compressors without great danger.

Not only is the actual danger reduced but also the men have a lighter, cooler, better ventilated and more desirable place to work than in an entirely closed building depending only on doors and windows for fresh air. Also the machinery is more accessible and heavy pieces can be moved in and out easily.

Although of secondary importance compared to the other advantages, the cost of the open type building is somewhat less than that of the all-enclosed building due to the elimination of the side walls.

As constructed by Shell Petroleum Corp., the open type building provides virtually as much protection for the equipment from the elements as does the conventional type of plant building. Only in case of hard winds is there much likelihood of rain blowing through it and little harm would be done if it did.

The building is of all steel construction, consisting of the roof supported on a steel structure. Only the rear is covered. It is 96 feet long and approximately 40 feet wide with the eaves extending well out over the sides. Housed in it are three 180-horsepower and one 225-horsepower Watts Miller gas compressors. Occupying 18 feet of space at the front end is the pumping equipment, including one gas blower, two lean oil pumps and two charging pumps.

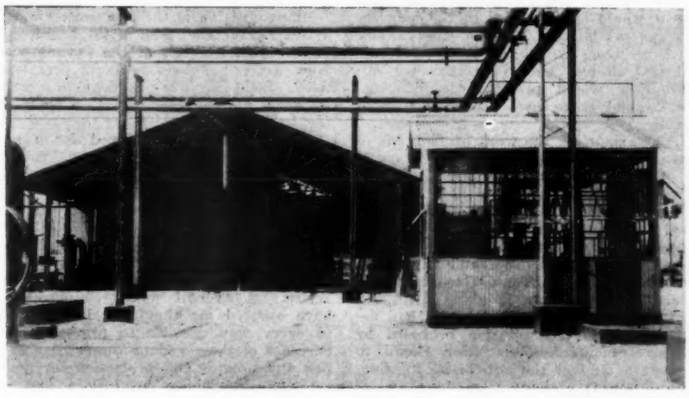
A metal fire wall separates the pump space from the compressors and should there be a fire or other trouble around the compressors the pumps would be readily accessible and could be cut off without endangering the men.

The open compressor building necessitated that a special room be provided for the operators, and in this the idea of safety was taken into consideration by having the operators in a separate building located some 50 feet distant but in full view of the plant. The building is a one-room, glass enclosed steel structure, 13 feet long and 10 feet wide. From it the operators can watch what goes on but at the same time are away from any of the hazards which might exist.

The recovery system at the refinery includes both this compression plant and also an absorption unit, the latter being of a conventional Alco Products, Inc., design. The compression plant has a capacity of approximately 2,500,000 feet of wet gas daily, this coming largely from the topping units with a content of around 11 gallons per 1,000 feet. By compression the content of this gas is reduced to around 3 gallons per 1,000 feet. The residue from the compressors and also the gas from the cracking plant, which also contains around 3 gallons per 1,000 feet, is run to the absorption unit, in which operation the content is reduced to around a half gallon per 1,000 feet.

The absorption plant, which has a capacity of approximately 6,500,000 feet of gas daily, was built the early part of the year. Previously only a compression recovery plant had been in operation, the original plant being in use since the completion of the refinery some five years ago.

The open type compressor building has won such favor at the Shell refinery that the walls of a pump house now are being torn out and it is probable that as occasion arises the design will be followed in other gasoline plant, pump house and refinery building construction in this district not only by Shell Petroleum Corp. but also by other companies.



Open type compressor building at Shell Petroleum Corp.'s Houston refinery showing front view and pump equipment space with fire wall separating pumps from compressors. Right, foreground, separate operators' room

RUSSIAN ENGINEERS ARRIVE

NEW YORK, July 10.—I. S. Poliakoff, refinery engineer, has arrived in the United States to represent the united oil and gas industries of the U.S.S.R. at the Los Angeles office of the Amtorg Trading Corp. He will take the place of N. V. Vannikoff who is returning to Moscow where he will be connected with the refinery operations of the U.S.S.R. Dr. K. P. Lavrovsky and N. A. Krysin of Vostokneft, which is the eastern oil trust of the U.S.S.R., are now in the United States studying refining methods and equipment. They are especially interested in processes and equipment for refining high sulphur crudes.

ROCKY MOUNTAIN RUNS

Estimated daily average production for the week ending July 7 follows:

WYOMING	
Salt Creek	17,780
Big Muddy	1,830
Badger Basin	40
Byron	70
Black Mountain	600
Dallas Derby	600
Dutton Creek	80
Elk Basin	580
Ferris	40
Frannie	2,180
Garland	870
Grass Creek	1,200
Greybull	10
Hamilton Dome	940
Hudson	330
LaBarge	1,240
Lance Creek	440
Lost Soldier	1,610
Mule Creek	Shut in
Midway	70
Notches	Shut in
Oregon Basin	2,590
Osage	950
Pilot Butte	10
Rex Lake	30
Rock River	1,520
South Casper	510
Poison Spider	330
Teapot	30
Total Wyoming	36,480
MONTANA	
Buckley-Border	360
Ca. Creek	600
Cut Bank	2,500
Dry Creek	Shut in
Kevin-Sunburst	4,360
Lake Basin	40
Pondera	860
Total Montana	8,720
COLORADO	
Florence	230
Fort Collins and Wellington	470
Iles Dome	1,620
Moffat	470
Orchard	100
Rangely	90
Tow Creek	200
Total Colorado	3,180
NEW MEXICO	
Artesia	640
Cooper area	80
Empire area	0
Eunice area	2,120
Getty Pool	0
Hobbs	36,490
Hog back	200
Hospah	Shut in
Jal	2,960
Lea area	2,000
Jackson	2,450
Maljamar	150
Rattlesnake	690
Table Mesa	90
Total New Mexico	47,870
Total Rocky Mountain area	96,250

WORLD CAR PRODUCTION

Gasoline sales have shown a close relationship with total car registrations and the fact that a turning point was reached in 1933 in regard to the trend of motor car production, helps to account for the more favorable showing in the present consumption of gasoline. World production of passenger cars, trucks and buses during 1933 totaled 2,715,575 units compared with 1,976,963 units in 1932, an increase of 37 per cent, according to the Department of Commerce.

Passenger cars accounted for 2,187,710 units, while the output of trucks and buses is recorded as 527,865 units. Of the total 1933 production, 1,959,945 units were produced in the United States compared with 1,370,678 units in 1932. The United Kingdom was the second ranking world producer of motor vehicles during the year with an output totaling 280,526 units compared with 244,434 units in 1932, and was followed in order by France with 191,929 units against 170,955 units; Germany, 105,832 units against 50,417 units; Canada, 65,924 units against 60,816 units; Soviet Russia, 49,743 units against 26,849 units; and Italy, 42,000 units against 29,100 units.

The United States was by far the first ranking country in the matter of exports of motor vehicles during 1933 with foreign sales totaling 107,031 units compared with 65,492 units in 1932. The United Kingdom ranked second for the year as an exporter of motor vehicles with foreign shipments totaling 51,692 units against 40,178 units in 1932, and was followed by France, 25,466 units against 19,206 units; Canada, 20,403 units against 12,534 units; Germany, 13,350 units against 11,025 units; and Italy, 7,389 units against 6,511 units.

NEWS FOR PETROLEUM REFINERS

Canadian Market Stiffens Result of Less "Hot Oil"

TORONTO, Ontario, July 7.—While the extensive price-cutting in gasoline which marked the earlier months of the year has been pretty well eliminated, there are still a few isolated price wars in Toronto, Montreal and other centers in eastern and central Canada. These are not likely, however, to become general because the "hot oil" on which the underselling of the regular companies is based appears to be available to a greatly reduced extent.

The large companies take the view that such prices cannot be quoted profitably by anyone paying full customs duty and full gasoline tax and paying the regular market price for crude. Confidence in the situation has been strengthened by the improved outlook for control in the United States.

Legal evasion of the Canadian customs tariff is suspected in some instances. The duty on ordinary gasoline is 2½ cents a gallon, but importers are able to bring in at 1½ cents a gallon a crude petroleum which is mainly gasoline. Casinghead gasoline is allowed to enter free to refiners who blend it with other gasolines distilled in Canada. By mixing this casinghead gasoline which is free with a crude containing a large proportion of gasoline, the small refiner in some instances gets a product on which the duty approximates one-half cent a gallon. When the price charged by the original "hot oil" source is included these people get a considerable price advantage. It is possible that in some cases a further advantage is secured by paying only a portion of the provincial gasoline tax. This usually runs around 6 cents and the word of the seller has heretofore been taken as to the payment.

While this situation penalizes those who pay the full tariff and tax, it is not likely to be permanent; since the federal and provincial governments, owing to the pressing need of additional revenues, are sure to take steps to stop the leaks.

The arrangement made some months ago whereby certain service stations sell gasoline at 2 cents a gallon under the regular price to members of the Ontario Motor League, and oil at 5 cents a quart under the regular price, is still being carried out, the recent increases in retail prices of gasoline enabling some sellers to resume operations under this plan.

ALLEGE CODE VIOLATIONS

NASHVILLE, Tenn., July 9.—Two Tennessee filling station operators felt the weight of a blue eagle. Federal officers arrested C. W. Cone, Nashville, and Ben Reeves, Murfreesboro, on charges of violating the National Recovery Administration code.

Richard L. Snyder, representative of the Department of the Interior at Washington, D. C., investigated a price slashing war that recently carried gasoline prices down nearly 10 cents a gallon below the average for most sections of middle Tennessee.

Mr. Cone allegedly sold gasoline without posting price signs and Mr. Reeves was charged with selling gasoline below posted prices by making rebates to customers. Bonds were set at $750 each.

CANADIAN OIL TARIFF

OTTAWA, Canada, July 7.—An amendment to the customs act affecting imports of gasoline and petroleum products from the United States was adopted at the recent session of parliament. The amendment provides that certain special duties should not be included in computing value for duty purposes. The amendment is understood to apply particularly to the United States processing taxes.

Differentials in Price Granted to Trackage Stations Brings Two Announcements

In the past week several price wars have been settled throughout the East by major marketers granting certain trackside station operators a small price advantage. This amounted to 1 cent on the regular grade in most cases and one-half cent on the third grade. This differential in favor of trackage stations has been advocated for months and consideration was given the idea by Administrator Ickes in passing upon the provisions of the marketing code. He decided against the practice at that time as it would have applied to the industry in general but did so with reservations.

More recently the Darrow report indicated that a plan of established differentials would promote stability and in the end prove more profitable to both parties.

In announcing the work of the administration, the following report was made:

"Several independents were in serious financial difficulties because of less-than-cost selling in the price wars, which had been ranging for several weeks in the vicinity of Huntington and Parkersburg, W. Va.; Roanoke and Richmond, Va., and Nashville, Tenn. Gasoline prices were far below cost.

"After some of the companies had declined a tentative solution proposed by the Petroleum Administrative Board to bring to an end the cut-throat fighting, Administrator Ickes called in some of the higher officials of the Standard Oil Companies of New Jersey and Indiana, who are the market leaders in the areas.

As a result of lengthy discussions with Administrator Ickes and with the board, these representatives offered to co-operate fully in an attempt to eliminate price cutting, and agreed to restore their prices to the levels prevailing in surrounding areas, where there had been no price wars. Spokesmen for these companies said they would, as a part of the program for market stability, sell their gasoline for 1 cent a gallon more than such independent dealers as the trackside operators.

"Participating in the conferences were: W. S. Farish, chairman of the board, and E. S. Hall, counsel, of the Standard of New Jersey; E. G. Seubert, president, Allen Jackson, vice president in charge of sales, and L. L. Stevens, counsel, of the Indiana Standard.

"Negotiations were opened for a settlement of other price wars under way in the Mid-Continent area embraced in the Mississippi basin states.

"Gasoline price wars, taking a heavy toll from the capital of both big and little dealers, and at times threatening to result in a lowering of wages to employes, should be stopped," Administrator Ickes said. "Small and large marketers have assured me they would co-operate in every way possible to prevent a recurrence of these vicious competitive battles and provide full protection for dealers and distributors against a loss of their markets. Settlement of these wars, and the rapid stabilization being effected

(Continued on Page 41)

Factory Sales of Automobiles for May, 1934

May factory sales of automobiles manufactured in the United States (including foreign assemblies from parts made in the United States and reported as complete units or vehicles), based on data reported to the Bureau of the Census, consisted of 331,641 vehicles, of which 273,765 were passenger cars, 57,876 trucks, as compared with 354,745 vehicles in April, 214,832 vehicles in May, 1933, and 184,295 vehicles in May, 1932.

The table below is based on data received from 119 manufacturers in the United States, 32 making passenger cars and 87 making trucks (10 of the 32 passenger car manufacturers also making trucks). Figures for taxicabs include only those built specifically for that purpose; figures for trucks include ambulances, funeral cars, fire apparatus, street sweepers and buses. Canadian figures are supplied by the Dominion Bureau of Statistics.

NUMBER OF VEHICLES

Year and Month	United States				Canada		
		Passenger				Passenger	
1934	Total*	cars*	Trucks*	Taxicabs†	Total	cars	Trucks
January	156,907	113,331	43,255	321	6,904	4,946	1,958
February	231,707	187,639	44,041	27	8,571	7,101	1,470
March	331,263	274,722	56,525	16	14,180	12,272	1,908
April	354,745	289,030	65,714	1	18,363	15,451	2,912
May	331,641	273,765	57,876	....	20,161	16,504	3,657
Total (5 months)	1,406,263	1,138,487	267,411	365	68,179	56,274	11,905
1933							
January	129,478	110,130	19,293	5	3,358	2,921	437
February	105,933	90,425	15,356	152	3,298	3,025	273
March	115,985	97,782	17,543	660	6,632	5,927	705
April	177,059	150,515	26,133	411	8,256	6,957	1,298
May	214,832	181,927	32,851	54	9,396	8,024	1,372
Total (5 months)	743,827	630,829	111,176	1,282	30,939	26,854	4,085
June	250,290	209,083	41,172	35	7,323	6,005	1,318
July	230,140	192,894	37,242	4	6,540	5,322	1,218
August	233,825	193,111	40,646	68	6,079	4,919	1,160
September	192,613	158,678	32,926	9	5,808	4,358	1,450
October	134,956	105,685	29,208	63	3,682	2,723	959
November	61,031	41,066	18,354	1,611	2,291	1,503	788
December	81,114	50,621	29,194	1,299	3,262	2,171	1,091
Total (Year)	1,927,256	1,581,967	340,918	4,371	65,924	53,855	12,069
1932							
January	119,344	98,706	20,541	97	3,731	3,112	619
February	117,418	94,085	23,308	25	5,477	4,494	983
March	118,959	99,325	19,560	74	8,318	6,604	1,714
April	148,326	120,906	27,389	31	6,810	5,660	1,150
May	184,295	157,683	26,539	73	8,221	7,269	952
Total (5 months)	688,342	570,705	117,337	300	32,557	27,139	5,418
June	183,106	160,103	22,768	235	7,112	6,308	804
July	109,143	94,678	14,438	27	7,472	6,773	699
August	90,325	75,898	14,418	9	4,067	3,166	901
September	84,150	64,735	19,402	13	2,342	1,741	601
October	48,702	35,102	13,595	5	2,923	2,361	562
November	59,557	47,293	12,025	239	2,204	1,669	535
December	107,353	85,858	21,204	291	2,139	1,561	578
Total (Year)	1,370,678	1,134,372	235,187	1,119	60,816	50,718	10,098

*United States passenger car and truck figures revised for the months of 1933, and first four months of 1934. †Includes only factory-built taxicabs, and not private passenger cars converted into vehicles for hire.

Strike May Cause Motor Fuel Shortage on Pacific

LOS ANGELES, Calif., July 9.—The San Francisco Bay region and the Pacific Northwest are facing a critical situation as a result of the longshoremen strike. If the teamsters abide by their recent vote to stage a sympathetic strike July 12 it will be impossible for marketers to make deliveries to service stations until the issue is settled. A San Francisco city ordinance limits the capacity of tanks in service stations to 1,000 gallons each and not more than three tanks in a single station. It is obvious that gasoline stocks in service stations will be used in a very few days. Marketers are endeavoring, if arbitration fails to designate several key stations where physicians and others entitled to emergency supplies may be able to obtain gasoline and oil. In Seattle, Wash., a number of stations have been temporarily closed due to the shortage of gasoline resulting from the inability of marketers to move tankers from refining centers.

The situation at Spokane is equally critical and California marketers are rushing tank cars of gasoline into the Northwest in an effort to alleviate the shortage. The added cost of railroad transportation will void the recent increase made in the posted price of gasoline and will undoubtedly reduce gasoline consumption in the affected areas.

SALES UP 15 PER CENT

TORONTO, Ontario, July 9.—In a recent interview, G. Harrison Smith, president of Imperial Oil, Ltd., reported a full 10 to 15 per cent increase in the volume of business recorded by his company since January 1. The marked increase in motor car sales, with new registrations showing a gain of 8 per cent for the year to date, is an added factor in the improvement in the oil industry, due to the increased consumption.

MUSKEGON BOAT SHIPMENTS

Cargoes of gasoline moved in and out of the Muskegon, Mich., Harbor last week in the Justine C. Allen, Shell Petroleum Corp.'s tanker, and the Beaumont Parks, Standard Oil Co. of Indiana's gasoline carrier.

The Allen brought in a cargo of about 400,000 gallons of gasoline for distribution in western Michigan, while the Parks took out a cargo of nearly 1,000,000 gallons of gasoline produced by the Naph-Sol Refining Co. to Standard plants at Whiting, Ind.

NOMA DIRECTORS MEET

CINCINNATI, Ohio, July 9.—The board of directors of the National Oil Marketers Association will hold its next meeting at the Stevens Hotel, Chicago, on Wednesday, July 18, 1934, according to E. V. Weber, president of the association. The association maintains executive offices in Washington, D. C.

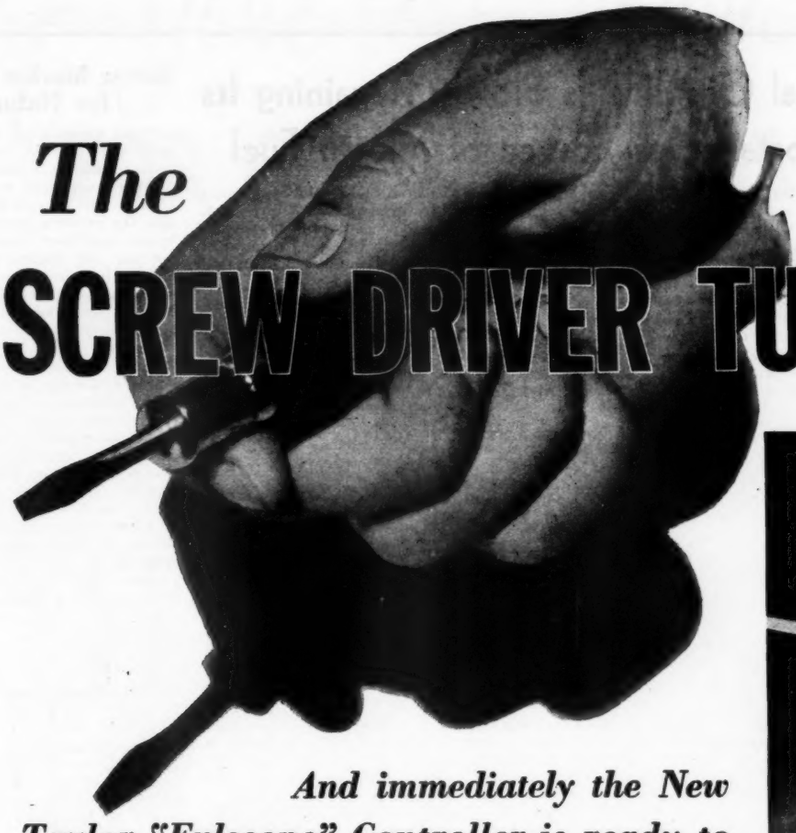
WATSON ON COMMITTEE

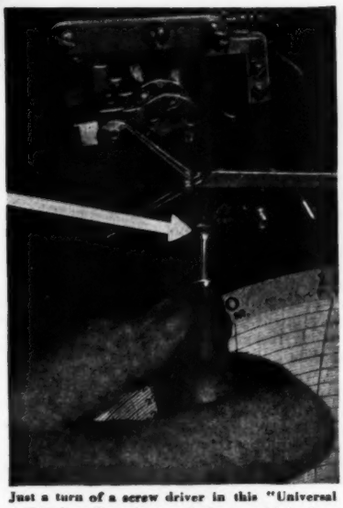
The Planning and Coordination Committee, with the approval of the petroleum administrator, announces the approval of C. B. Watson of the Pure Oil Co. to the refinery committee for Regional District No. 1.

NEW COMMITTEE MEMBER

Joseph K. Roberts, of the Standard Oil Co. (Indiana), Whiting, Ind., has been appointed member of the American Petroleum Institute's Committee on Disposal of Refinery Wastes, and of the Institute's Committee on Corrosion of Refinery Equipment. In both cases he succeeds W. G. Whitman, resigned.

The SCREW DRIVER TURNS...





Just a turn of a screw driver in this "Universal Sensitivity Adjuster" gives the best sensitivity for a particular application.

And immediately the New Taylor "Fulscope" Controller is ready to meet any specific temperature, pressure or flow control requirement in your plant

"THE greatest advance in years in control instruments." So engineers in different industries speak of the New Taylor "Fulscope."

Why such praise? Mainly because of a remarkable development, the "Universal Sensitivity Adjuster" in the "Fulscope." By means of a simple graduated dial adjustment you can match exactly the unit sensitivity of the controller with the time lag and heat capacity of the apparatus involved. You have for the first time in any controller an easy method for even an unskilled operator to get the *one correct sensitivity* desired *while the instrument is in service.*

The "Universal Sensitivity Adjuster" provides in one controller a full range of sensitivity positions from high to low limits. The turn of a screw driver gives you steady throttling or on-and-off action.

Let us tell you more about the operation of this main feature of the Taylor "Fulscope." Investigate, also, other Control instrument improvements that insure new plant economies and even more uniformly high quality products.

Note these:

1. **Easier, more accurate setting point adjustment.**
2. **Direct to reverse action obtained without extra parts.**
3. **Practically no pen drag.**
4. **Full length flexible pen arm.**
5. **Improved and lighter leverage system practically eliminates friction. No sacrifice of ruggedness.**
6. **Easier calibration.**
7. **Tube systems easily replaced on the job.**
8. **New die-cast case is dust-, moisture-, and fume-proof.**

Write for new booklet, "A Triumph of Scientific Research," describing the Taylor "Fulscope" Controller. Free on request. No obligation. Address Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

Taylor

Indicating • Recording • Controlling

TEMPERATURE, PRESSURE *and* FLOW INSTRUMENTS

NATURAL GASOLINE MANUFACTURE

Shell Furthering Use of Propane in Metal Industry

An advantage to both producer and consumer is found in the extended use of propane in metal working. The use of propane in welding, cutting and the heat treatment of metals, is being furthered by the Shell Petroleum Corp. Quantities of Shell propane are being stocked at centrally located plants for speedy distribution to refinery, oil field, pipe line or other industrial uses.

Although new in the field of metal working, the efficiency and adaptability of propane may make it of general use in the future. As it is one of the most volatile of the petroleum products, it is stored under high pressure in steel cylinders. A cylinder will hold 100 pounds of propane containing 2,000,000 B.t.u. This may be compared to 450,000 B.t.u. developed by one commercial size cylinder of acetylene.

This fuel, while not capable of developing the high temperature of oxy-acetylene, is useful for most of the jobs done in the oil industry. The greatest use of propane is for metal cutting. The use of any fuel in an oxygen combination torch is to preheat the metal to a temperature at which it will cut, or burn, when the oxygen is turned on it. Propane is found to do this in equal time and at a lower cost, by means of a special tip on the cutting torch. Experiments over a long period of time show cleaner and narrower cuts with the use of propane. Thus the cost and time of chipping the metal edge and the waste of a wide cut are eliminated.

For welding, the use of propane is limited. Thin sheets of steel may be welded, but oxy-acetylene is necessary for heavier work. Propane adapts itself well to the conditions of annealing. In heating joints of welded pipe line to prevent stresses and strains, a fuel must be used that is easy to handle and low in cost. The cleanliness and ease of control of propane recommend it also for use in brazing and soldering.

In the carburizing, or case hardening, of steel an even distribution of heat from a homogeneous fuel is very necessary. Further, as carburizing plants are often set apart from one another in automobile and other factories, the mobility of propane is another of its advantages.

EXPORTS HOLD GAIN

Natural gasoline exports in April increased slightly over those of March. The Department of Commerce shows Canada leading in consumption, followed by Belgium, the United Kingdom, and Germany, to total 150,970 bbls. Nearly half of this amount was cleared from the port of Galveston, Tex. A detailed report of consuming countries and exporting districts follows:

PURCHASERS OF U. S. GASOLINE
(Barrels)

	Apr.	Mar.
United Kingdom	33,869	39,984
Sweden	.....	40,125
Canada	51,209	41,097
China	.....	195
Belgium	39,255	.....
Germany	26,637	.....
Total volume	150,970	121,401
Value	$211,539	$210,178

CUSTOMS DISTRICT THROUGH WHICH CLEARED
(Barrels)

	Apr.	Mar.
St. Lawrence	5,818	6,889
Buffalo	21,120	10,503
Galveston	60,506	80,109
Montana and Idaho	.....	2,454
Dakota	4,819	4,084
Michigan	19,065	17,367
Duluth and Superior	337	.....
New Orleans	39,255	.....
Total volume	150,970	121,401

Natural Gasoline Is Slowly Regaining Its Importance as Source of Motor Fuel

Slowly natural gasoline appears to be recapturing lost ground as a source of motor fuel. Over the first four months of the year, according to Bureau of Mines reports, 8,456,000 bbls. of natural were used compared with 7,711,000 bbls. in the same period last year. This increase reflects a better market for motor fuel in general but it should be shown also that natural gasoline enjoyed a slightly better relative position. This year natural gasoline represented 6.5 per cent of the total motor fuel produced whereas a year ago natural was 6.3 per cent. This small improvement probably marks the turning point in the trend of natural utilization, the decline in which started in 1929.

Referring to Table 2, the first four months of this year indicate a distribution very similar to that of 1932. Natural gasoline as a percentage of the crude refined, has shown an increase in this

(Continued on Page 32)

TABLE 1—RELATIVE VOLUMES OF STRAIGHTRUN, CRACKED AND NATURAL GASOLINES BLENDED BY AREAS

First Four Months of 1934

	Straightrun (bbls.)	(%)	Cracked (bbls.)	(%)	Natural gaso. (bbls.)	(%)	Total (bbls.)
Oklahoma, Kansas, Missouri	8,336,000	48.0	7,187,000	42.0	1,707,000	10.0	17,230,000
Inland Texas	6,320,000	60.0	2,943,000	28.0	1,270,000	12.0	10,533,000
North Louisiana, Arkansas	1,351,000	48.0	1,313,000	46.0	169,000	6.0	2,833,000
Texas Gulf Coast	10,776,000	47.0	11,542,000	51.0	470,000	2.0	22,788,000
Louisiana Gulf Coast	3,097,000	58.0	2,175,000	41.0	70,000	1.0	5,342,000
East Coast	12,605,000	54.0	10,144,000	44.0	432,000	2.0	23,181,000
Appalachian	2,790,000	49.0	2,704,000	48.0	197,000	3.0	5,691,000
Indiana, Illinois	8,650,000	42.0	11,266,000	55.0	645,000	3.0	20,561,000
Rocky Mountain	1,260,000	47.0	1,177,000	43.0	259,000	10.0	2,696,000
California	10,286,000	54.0	5,382,000	29.0	3,237,000	17.0	18,905,000
Total United States	65,471,000	50.5	55,833,000	43.0	8,456,000	6.5	129,760,000

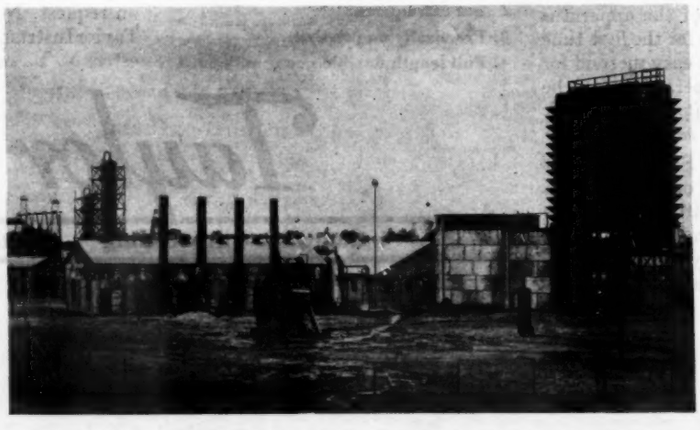
First Four Months of 1933

Oklahoma, Kansas, Missouri	8,082,000	50.0	6,469,000	41.0	1,452,000	9.0	16,003,000
Inland Texas	5,810,000	63.0	2,414,000	26.0	1,037,000	11.0	9,261,000
North Louisiana, Arkansas	1,350,000	51.0	1,160,000	44.0	138,000	5.0	2,648,000
Texas Gulf Coast	9,750,000	45.0	11,123,000	51.0	818,000	4.0	21,691,000
Louisiana Gulf Coast	2,097,000	46.0	2,390,000	52.0	85,000	2.0	4,572,000
East Coast	10,184,000	47.0	11,170,000	52.0	209,000	1.0	21,563,000
Appalachian	2,341,000	46.0	2,675,000	53.0	72,000	1.0	5,088,000
Indiana, Illinois	8,019,000	42.0	10,410,000	55.0	528,000	3.0	18,957,000
Rocky Mountain	1,178,000	47.0	1,034,000	42.0	281,000	11.0	2,493,000
California	11,919,000	61.0	4,396,000	23.0	3,091,000	16.0	19,406,000
Total United States	60,730,000	49.8	53,241,000	43.9	7,711,000	6.3	121,682,000

TABLE 2—PERCENTAGE OF GASOLINE BLENDED BASED ON CRUDE OIL REFINED

	Straightrun gasoline output	Cracked gasoline output	Total straightrun and cracked	Natural gasoline used	Total yield per barrel of crude
1918	22.7	2.6	25.3	0.8	26.1
1919	22.5	2.8	25.3	0.8	26.1
1920	22.6	3.5	26.1	0.7	26.8
1921	22.6	4.5	27.1	0.6	27.7
1922	22.8	6.0	28.8	0.7	29.5
1923	24.0	6.0	30.0	1.0	31.0
1924	25.0	6.2	31.2	1.9	33.1
1925	23.1	9.3	32.4	2.7	35.1
1926	22.9	12.0	34.9	3.6	38.5
1927	23.8	12.2	36.0	3.9	39.9
1928	24.0	13.4	37.4	3.9	41.3
1929	24.8	14.5	39.3	4.7	44.0
1930	24.2	17.7	41.9	4.7	46.6
1931	24.6	19.7	44.3	3.9	48.2
1932	23.8	20.9	44.7	3.2	47.9
1933	22.8	21.0	43.8	2.9	46.7
First 4 months of 1934	23.8	20.8	44.6	3.1	47.7

Recent Addition to East Texas Plants



Sinclair-Prairie Oil Co. gasoline plant in J. Mosely Survey near Longview

Better Market Expected for Natural in August

Many students of the natural gasoline market fail to be disturbed about the latter's immediate future. They recognize the low quotations on all grades of material at the present time and also recognize the growing production in the Panhandle and East Texas Fields but in the not too far distant future they see a pick-up in refinery utilization of natural and also some form of production control. August is a poor month for refiners to blend larger quantities of natural in their motor fuel production because of the high average atmospheric temperature, but it has proved to be a good month over the past years for refiners to place contracts for fall and winter needs. This has stimulated the spot market buying to some extent and has usually led to a price advance extending over several months. The fact that major refiners have practically agreed to absorb larger quantities of natural over the future in support of the market and because a definite program for market stabilization is expected to take form before the close of July, a stiffening in the market is likely.

The course of the refinery buying program in East Texas during July will offer a guide to steps to be taken in absorbing excess natural stocks and production. The program will also provide for a prolonged taking of distress production in those areas where such excess consistently shows up.

The Bureau of Mines report for May indicates an increase of 10,000,000 gallons in stocks of natural at plants for the month to bring the total to 63,708,000 gallons. Production declined in the more important fields while the East Texas area established a new high. Total production for May was slightly lower.

Waste of Gas in Turner Valley Field Is Reduced

According to the petroleum and natural gas branch of the Alberta lands and mines department at Edmonton, reduction of gas waste in the Turner Valley Field is now assuming large proportions, and good results are showing from the operations of the new conservation plan. The recovery plant installed over a year ago by the Royalite Oil Co. is now handling 130,000,000 feet of gas per day, compared with its initial capacity of 75,000,000 feet.

The department's statistics show that in March the average gas-oil ratio for the entire field was 79,000 feet per barrel recovered, and for the group of wells controlled by the Royalite Oil Co. the average was 68,000 feet. Wells that still depend on separators are said to require up to 755,000 feet per barrel recovered, suggesting they can make only about 10 per cent of the recovery possible in the plant. An immense saving on the previous wastage is thus indicated as a result of the absorption process, according to the official statement.

It is further stated that with few exceptions the quotas for gas withdrawal set by the government on the basis of tests made by the conservation board are being observed by the operators, and the present restrictive measures are working smoothly. Gas meters are in almost universal use.

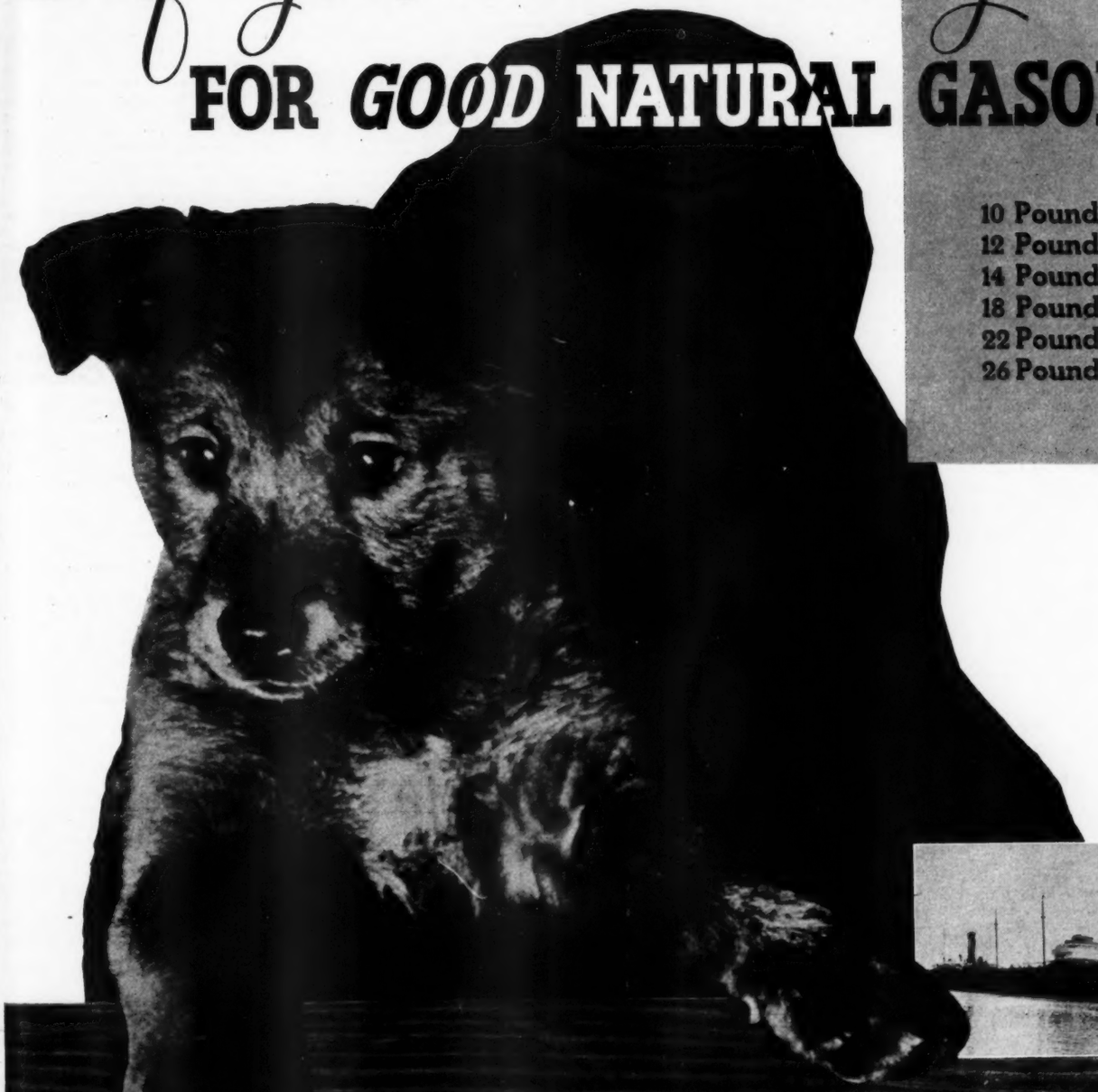
REVAMP MAGNOLIA PLANT

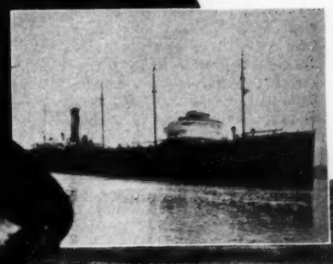
The Magnolia Petroleum Co. has started the operation of its Skellyville, Tex., natural gasoline plant. The equipment was recently revamped to increase the gas handling capacity and at present is producing close to 20,000 gallons daily.

If you are looking

FOR GOOD NATURAL GASOLINE

10 Pounds
12 Pounds
14 Pounds
18 Pounds
22 Pounds
26 Pounds





WARREN

Late Fields

OKLAHOMA

Inland Development Co.'s No. 1, C SE SE NW Section 9-7-4, Pottawatomie County, found Hunton lime at 3,738-85 feet. The well made 320 bbls. the first day and 275 bbls. the second 24 hours.

Olympic Oil Co.'s No. 1 McCaslin, NW NW Section 12-9-8, Hughes County, has a 40,000,000 to 50,000,000-foot gas well in Cromwell sand at 3,430-79 feet, with a spray of oil. It was shut in. Several shallow gas wells had been drilled in the neighborhood in the past, but this well opens a deep gas horizon.

The Denver Producing & Refining Co.'s No. 1 A-Dah-Noe, C NW SW Section 34-10-10, Caddo County, Oklahoma, placing shot inside drill pipe stuck at 11,230 feet, on July 10.

Conley Drilling Co. and others' No. 1, NE cor. Section 13-7-4, Pottawatomie County, was acidized in dolomite at 3,905-83 feet, and flowed 26 bbls. per hour, but it is believed the well can do more oil than this on a test under better conditions.

Magnolia Petroleum Co.'s No. 2, NE SE NW Section 34-7-4, was acidized in Houston lime at 3,966-4,010 feet and produced 200 bbls. in a 48-hour test.

Frank Russell's wildcat in SE cor. Section 24-6-3 had Viola lime at 3,774 feet but twisted off the drill pipe at 1,500 feet when the hole was bottomed at 3,779 feet. It has been impossible to recover the drill pipe and the test may be abandoned.

W. N. Anthony and others' wildcat test, No. 1, C SE NW NW Section 4-16-1e, Logan County, had oil saturation in a core taken in Hunton lime between 4,950 feet, the top, and 4,966 feet, the total depth. Viola lime was topped at 5,071 feet.

KANSAS

Garden and others' No. 1, C NE NE NE Section 10-21-7w, Rice County, had conglomerate at 3,353 feet and oil and gas at 3,354-61 feet, total depth. The well made 826 bbls. in 24 hours in a potential test. There was no water.

SUGGESTIONS ON TRIPS

A vigorous campaign has been launched by Cities Service Oil Co. to persuade all motorists on extended trips to adopt the Army marching custom of halting for a "breather" for five minutes in each hour of travel. The practice is put forward as a step in combating the effects of carbon monoxide gas.

Within the past four months three state governments, a prominent insurance company and many automobile associations throughout the country have officially stated that the effect of carbon monoxide gas in dulling a driver's sense of co-ordination has been responsible for many of the highway accidents. The current plan of halting with silent motor for five minutes out of each 60 is indorsed as a definite precaution against the accumulation of harmful quantities of the gas in the interior of the car.

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey reports a severe magnetic storm started at 4 a.m. (C.S.T.) on July 3 and ended at 8 a.m. (C.S.T.) July 5. Its telegrams follows:

"Storm began third. Ten. Severe."

"Storm ended fifth. Fourteen."

DEPOSITS INCREASE IN BANKS

Oil country banks in Oklahoma are showing the result of better prices for crude oil and better general conditions by large increases in their deposits. Tulsa banks on June 30 contained deposits of $78,411,365.43, and Oklahoma City banks $75,465,630.37.

R. H. COOK DIES

ELECTRA, Tex., July 7.—R. H. (Bob) Cook, 67, retired oil operator and merchant of Electra, succumbed to a heart attack in an El Paso hospital while en route to California.

Standard Vacuum Co. Enlarging Refinery and Pipe Line Facilities in Sumatra

NEW YORK, July 10.—The Standard Vacuum Oil Co., which was organized last year as a merger of Far East properties of the Standard Oil Co. of New Jersey and the Socony Vacuum Oil Co., Inc., has completed plans for the enlargement of its pipe line and refinery facilities. The immediate program, which calls for an expenditure of approximately $3,000,000, provides for increasing the capacity of the refinery at Soengei Gerong, near Palembang, Sumatra, from 25,000 bbls. to 35,000 bbls. daily and looping approximately 90 miles of 8-inch pipe line connecting the refinery with crude oil production located in the fields of Talang Akar and Pendopo, Sumatra.

The refinery is located at the junction of the Kemering and Moesi Rivers, about 60 miles inland. The plant was built, starting in 1923, by the Nederlandsche Koloniale Petroleum Maatschappij, a subsidiary of the Standard of New Jersey, and is now owned and operated as a subsidiary of the newly organized company. Its capacity has been gradually increased from 3,000 bbls. daily. A large part of the new equipment to be installed consists of cracking facilities. Due to the high paraffin content of the crude oil, emphasis is placed on cracking equipment in order to secure high octane gasoline and low cold test residual products. The plant now occupies a tract of 1,000 acres. The company also has a 5,000-bbl. refinery located at Kapoean, Java.

The additional pipe line capacity is required to furnish the crude oil supplies which will be required by the enlarged refinery at Soengei Gerong.

The increased refining and pipe line capacity indicates that the Standard Vacuum company expects to expand its marketing operations in the Far East. The company was formed in order to strengthen the position of the Standard of New Jersey and Socony Vacuum companies in that part of the world. The latter company contributed its widespread marketing facilities in the Far East to the merger which are now furnishing outlets for the large producing and refining facilities formerly owned by subsidiaries of the Standard of New Jersey.

Natural Gasoline Slowly Regaining Its Importance

(Continued from Page 30)

period, after a gradual decline since 1930. This percentage increase is shared by straightrun gasoline, which jumped 1 per cent after a similar decline in the last three years. Offsetting these increases to some extent, the cracked gasoline output has decreased from 21 per cent to 20.8 per cent. The net result is a total yield of 47.7 per cent based on the crude oil refined. This also shows a better yield, and the main factor, as shown, is the marked increase in the straightrun output.

It must be kept in mind, however, that these first four months do not exactly show what the year's yield will be. Further, it does not always show the trend. The low in cracked gasoline output occurred after March of 1933, and the yearly figure shows a percentage of 21 against 20 per cent at the end of March. However, the greatest increase in yield is in straightrun, the largest source, and it may be expected that the 1934 figure will be greater than 47 per cent.

JOHN D. ROCKEFELLER IS 95

John D. Rockefeller, Sr., celebrated his ninety-fifth birthday anniversary at his summer home in Lakewood, N. J., Sunday, July 8. He has not been feeling well lately and the observance was somewhat curtailed.

UNION GAS MEETING

TORONTO, Ontario, July 7.—Shareholders of the Union Gas Co. of Canada, Ltd., re-elected officers and directors as follows: Chairman, G. R. Cottrelle; president and general manager, S. A. Morse; vice presidents, D. A. Coste, R. L. O'Brian, W. J. K. Vanston; directors, Eugene Coste, W. L. Duffield, F. E. Ogden, Arthur F. White; comptroller, secretary and treasurer, A. R. Mackenzie.

Shareholders of United Fuel Investments, Ltd., a Union subsidiary operating in Hamilton, Ontario, re-elected the following officers and directors: President, S. A. Morse; vice president, A. F. White; secretary-treasurer, A. R. Mackenzie; directors, T. P. Pinckard, G. H. Cassels, G. R. Cottrelle, J. A. Fraser, Judge J. G. Gauld.

The Oil Man's Calendar

August

24-27—Titusville, Pa., Drake Well Memorial Celebration.

September

9—Wernersville, Pa., American Trade Association executives.

10-14—Cleveland, Ohio, American Chemical Society.

11-12—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel (dates tentative).

12-14—Atlantic City, N. J., North American Gasoline Tax Conference, Claridge Hotel.

19-21—Atlantic City, N. J., National Petroleum Association.

26-27—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

October

1-5—Cleveland, Ohio, National Safety Council, Cleveland, Statler, Carter and Hollenden Hotels.

9—Michigan Independent Petroleum Distributors Association, place to be named later.

12-13—American Institute of Mining Engineers, Petroleum Division fall meeting, Tulsa, Mayo Hotel.

16-18—Big Four State Jobbers Association Convention, Kansas City, Mo.

29—American Gas Association Convention and Exhibition, Atlantic City, N. J.

November

5-9—Cleveland, Ohio, Automotive Service Industries Show, Cleveland Public Auditorium.

Los Angeles, Calif., American Association of Petroleum Geologists, Pacific section.

12-15—Dallas, Tex., annual meeting, A.P.I.

December

3-8—New York, National Exposition of Power and Mechanical Engineering, Grand Central Palace.

January

7—New York, Society of Automotive Engineers, annual dinner.

Log of California Well Corrects Record on Bit

In the June 28 issue of The Oil and Gas Journal, in the article entitled "Production Test on World's Deepest Well Was Delayed by Rather Unusual Development," the following statement was made on page 30: "During the course of operations, General Petroleum used both Hughes three-cone rock bits and Reed Roller bits and reamers with excellent results. Reed bits used included a number of 18¾, 12, 7¾ and 5⅝-inch, a total of 141, not including an undetermined number of the 18¾-inch size. Hughes rock bits ranged in size from 7¾ to 5⅝-inch each." This statement should have read: "During the course of operations General Petroleum used both Hughes three-cone rock bits and Reed Roller bits and reamers with excellent results. Reed bits used included a number of 18¾, 12 and 7¾-inch, a total of 141, not including an undetermined number of 18¾-inch size. Hughes rock bits ranged in size from 7¾ to 5⅝-inch each." The General Petroleum Corp.'s official log of the well shows all 5⅝-inch rock bits used in the hole were Hughes three-cone roller bearing type.

Diamond Jubilee Program for Drake Celebration

OIL CITY, Pa., July 9.—Nationally prominent political figures will join outstanding members of the oil industry in the dedicatory services of the Drake Well Memorial Park on August 27, the final day of the Diamond Jubilee of Oil Celebration in Titusville.

The program lists Gifford Pinchot, governor of Pennsylvania; Axtell J. Byles, president of the American Petroleum Institute, and Harold L. Ickes, oil administrator and Secretary of the Interior, as speakers. In addition, George White, governor of Ohio, will preside at the dedicatory exercises. An address of welcome will be delivered by Mayor Arthur G. Bellen, of Titusville.

Dedication of the park will culminate the celebration commemorating the seventy-fifth anniversary of the drilling of the first oil well by Colonel Drake, which will last four days, August 24-27.

The program follows:

Friday, August 24—Oil Region Day

Registration of visitors at the Hall of Hospitality, Brunswick Hotel Building.

Sightseeing tour of Drake Well Memorial Park and other places of historical interest in Titusville and vicinity for the oil people from Olean, Bradford, Warren, Franklin, Oil City, and Butler.

1:30 p.m.—Formal opening of Diamond Jubilee of Oil exhibition, Radiator Building.

3:30 p.m.—Ball game, Carter Athletic Field.

8 p.m.—Historical pageant, "The Story of Oil," at fair grounds.

Band concerts at Colonel Drake Park, morning, afternoon and evening.

Saturday, August 25—Jubilee Day

3 p.m.—Parade, Diamond Jubilee of Oil.

7:30 p.m.—Historical pageant, "The Story of Oil," at fair grounds.

9:30 p.m.—Diamond Jubilee Ball, at Colestock High School Gymnasium.

Band concerts at Colonel Drake Park, morning, afternoon and evening.

9 p.m.—Boxing exhibition.

Sunday, August 26—Old Home Day

Special services in all Titusville churches.

2 p.m.—Concert at Colonel Drake Park.

4 p.m.—Singing by Shrine Chanters of Erie, at Colonel Drake Park.

7:30 p.m.—Concert at Colonel Drake Park.

Monday, August 27—Drake Day

2:30 p.m.—Dedicatory exercises for Drake Well Memorial Park at Colonel Drake Park.

Elaborate fireworks display.

Mardi gras.

Band concerts at Colonel Drake Park, morning, afternoon and evening.

East Texas Buying Movement Strengthens Refined Market in Chicago Territory

By SPECIAL CORRESPONDENT

CHICAGO, July 9.—Inauguration of the long-delayed East Texas buying movement brought considerable strength into the tank car gasoline market here immediately and appeared to promise still more strength. The price structure was improved fractionally and began to show signs as the week opened of adding much more to the ground gained. Orders on contract from jobbers were increasing and actual open market buying also was beginning to show a fairly good increase although total spot purchases were still not so large as desired.

Feeling in the trade at large in the last days of the past week underwent quite a little improvement. More cheerful utterances are heard. Offerings of gasoline are next to nothing, in comparison with those of two weeks ago. A distinctly bullish attitude pervades refiners' quarters. Predictions for noticeably higher prices are common.

Settle Price Cuts

Coupled with the tank car market improvement is the movement toward settlement of many local tank wagon and service station price cuts. The long-standing Chicago disagreement seems definitely in process of conclusion on the basis of a differential of 1 cent allowed to private brand sellers and normal prices by majors as the goal. This is tending to put jobbers in a better frame of mind. In numerous sections, especially the western tier farm belt states of the Middle West, much unrest is current over major companies' policies with respect to the marketing agreement, but in general it is believed the moves of the last week or so have been of a constructive nature. Most jobbers appear to be doing a comparatively good gallonage, although business is tending a little spotty. Major companies' results are showing up fairly well in this respect.

Study Differential

In many quarters there is a tendency to regard the 1-cent retail price differential concession which has been made to independent sellers in limited areas as a sure forerunner of a similar condition to be applied to the trade generally. The oil administration stated in connection with its approval of the marketing agreements early in the year that such a situation had much to recommend it. Independent retailers are known to have made strong representations in behalf of the plan in the last few weeks. Some of the Chicago retailers are disappointed that the full cent differential applies only to regular and only one-half cent to third-grade. However, leaders here appear satisfied, and feeling here is that the independents have won at least one round. They, in common with majors, do most of their business on regular grade gasoline.

Kerosene

High grade kerosene is scarce and in somewhat improved demand, at firm to stronger prices. Farmers are doing quite a little delayed field work and supplies of this material are not plentiful. There is, of course, still plenty of 41-43 material available, at about unchanged price levels.

Heating Oils

Heating oil distributors now are starting to pay more attention to purchase of material for summer storage. Prices are regarded at or near the bottom in the tank car market. In fact, some believe higher gasoline prices might carry these products along with them marketwise. Distillates and zero gas oils appear to be in fairly good market position, when it comes to purchase of any sizeable quantities.

Fuels

Outlook for heavy fuels is mixed and uncertain. The steel industry and other large consumers have reduced operations substantially of late, but it is believed a late summer pickup is in prospect in many lines. With crude holding firm and with other products strengthening, it is regarded as possible that fuels might also move into a stronger market situation. Currently, prices are little changed.

Crude Oil Prices

(Continued from Page 25)

Effective September 29 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.95
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.30
Fort Collins and Wellington, Colo. (June 17) (See Salt Creek prices)	
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 9, 1933) See Stanolind Mid-Continent price schedule	
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 8, 1933) See Mid-Continent gravity prices	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osago	1.08
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome:	
Below 18° (July 1, 1934)	.52
18° and above (July 1, 1934)	.62
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.15
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos-Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.03
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Mar. 17, 1934)	1.03
Pleasant Hill, La. (Mar. 17, 1934)	1.03
Zwolle, La. (Mar. 17, 1934)	1.03
Champagnolie, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.03
Stephens, Ark. Sept. 29, 1933)	.70
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields (See gravity table)	

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co; Champagnolie by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective May 1, 1934)

Bradford, Pa.	$2.55
Allegany, N. Y.	2.55

SOUTH PENN OIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.55
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.22
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.17
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.07
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.32

PENNZOIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$2.47
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.46
Includes Titusville district.	
Group C	2.46
Includes Turkey and Tidioute districts.	
Group D	2.44
Includes Bear Creek and Porkey districts.	
Group E	2.42
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson Kennerdell, Emlenton, Tiona, Lacey and Kinsua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective May 1, 1934)

Cabin Creek, W. Va.	$2.17
Bradford Hollow, W. Va.	2.17
Kelly Creek, W. Va.	2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.80
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky	1.18
Midland, Mich. (Sept. 30, 1933)*	1.62
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.33
Hart County, Ky. (Oct. 1, 1933)	1.18

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear Naphtha	$2.55
Discolored naphtha	2.31
Crude oil, 50 gravity	2.19
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.59

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$0.94

*F.o.b. ship, based on May transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.76	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.72	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.88	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.03	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 31-31.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 25 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

Pennzoil Co. Converts Dubbs Reforming Unit to Gas Oil and Fuel Oil Cracking Operation

By L. D. FULTON and P. M. ROBINSON
Pennzoil Co.

About the first information we had of cracking was an experiment conducted by one, Mr. Benton, some time in 1881. The object of this experiment was for the purpose of producing additional percentage of kerosene, or burning oil. Mr. Benton considered that the only way to accomplish the desired result was to pump a pressure on a container or small still, rather than by applying heat, releasing the pressure as heat was increased. By this method, he was actually able to increase the percentage of light products.

We have records of a patent issued to Mr. Benton in 1886; there were also several other patents taken out during the period from 1881 to 1891, the foremost object being for the purpose of producing additional kerosene. However, due to overproduction of crude oil, it was not profitable to continue cracking for this purpose.

Early Patents

There were several other patents out between 1891 and 1912 for the purpose of producing additional gasoline from crude oil. One of the most successful and generally used systems of the many early plants was the Burton system, which consisted of a conventional shell still built to withstand a pressure of 100 pounds with operating pressure of 80 pounds. This was later improved by an invention of Burton and Clark, consisting of a heating coil in conjunction with the shell still.

About 1913, the refineries became interested in work being done by Roy Cross. Mr. Cross perfected what was destined to be one of the most successful systems of its time, as prior to this date 30 per cent yield of gasoline from a fuel oil distillate was considered high. However, time on stream was limited to about 144 hours, with as high as 60 per cent gasoline yield.

During all the time of liquid phase cracking, we must not lose sight of the work done on vapor phase cracking. About the first satisfactory vapor phase cracking plant was built at the plant of the Germania Refining Co., now the Pennzoil Co. at Rouseville, Pa., where this company operated a 1,000-bbl. charging capacity plant from 1914 to 1916.

This system was developed by Walter F. Rittman, the first public demonstration being made at Columbia University in 1910, the cracking reaction taking place in a small electrically heated tube. L. D. Fulton, superintendent of the Germania Refining Co., working with Doctor Rittman on this development work, proved that the heat required could be applied by gas or fuel oil, and expensive tar pots might be eliminated by the addition of small individual preheating coils. This proved to be one of the most successful vapor phase cracking plants of its time.

After the Rittman plant was abandoned, this company installed a Fleming plant, consisting of four conventional Fleming stills, which were operated very satisfactorily. In 1926, this company erected two Dubbs stills, operating nonresiduum, which are fully described in the following paragraphs:

The lack of a market for gas oil and the increasing demand for more gasoline was the principal cause for the installation of these two plants. Octane numbers were unknown and only slight thought was given to benzol equivalent, the method of rating antiknock at that time. Cracked gasolines were regarded as rather inferior products. In some cases, unsaturates were evaluated by iodine numbers, and treating was done to lower the content of unsaturates in cracked gasoline. Some trouble had been experienced through gumming with some gasolines and on every hand the story was circulated that dire results would ensue from the use of such a product. Odor was another hurdle to be surmounted. Motorists were skeptical that they were receiving gasoline at all since it did not smell like the product they were used to receiving.

Nonresiduum Operation

These two units were the typical Dubbs process nonresiduum operation plants. They had a combined charging capacity of 2,000 bbls. of gas oil per 24 hours. The main product was pressure distillate, which required acid treating and rerunning to produce finished gasoline. These last processes added about .5 cent per gallon to the price of producing gasoline. Losses were high during treating and rerunning. However, the product produced was quite stable toward gum formation and deteriorated little during storage.

Yields were:

	Per cent
Gasoline	70
Gas	24
Coke	4
Loss	2

These plants only operated 100 hours on stream and 24 hours off for cleaning. Many people will long remember trying to remove the coke from those reaction chambers and the catastrophe of breaking a cable off in the coke. However, the end justified the means.

With the year 1929 it began to be evident that with increasing compression ratios of motors, motor grade gasolines as well as premium grades must have high antiknock ratings. The cracking art had progressed rapidly during the preceding two years and both because of the need of more cracked gasoline, and the improvements that had been made in design and operation of these plants, Pennzoil Co. was led to install a third Dubbs process cracking unit. The larger the charging capacity of a given unit, the less the initial and operating costs per barrel of throughput. Other companies were feeling the need of cracked gasoline and a suggestion was made that several neighboring refineries collaborate in the erection of a large unit, each thereby benefiting by the savings. The Independent Refining Co. of Oil City, Pa., the Wolverine-Empire Refining Co. of Reno, Pa., the Continental Refining Co. of Oil City, Pa., and the Pennzoil Co. of Oil City, Pa., all subscribed to interests in this plant. It is, indeed, a credit to the personnel of each of these companies that this ownership has been so successful.

The unit erected in the early part of 1930 had a charging capacity of 3,000 bbls. per 24 hours. It consisted of furnace, reaction chamber, flash chamber, heat exchanger, fractionating tower, charge and hot recycle pumps and the various auxiliaries of the typical Dubbs process cracking plant of today. But at that time it represented an entirely new type of operation for the Pennsylvania Field. High hopes were entertained that 35 per cent of the gasoline might be taken overhead from the fractionating tower that would not require treating and rerunning. A side tower was installed for finishing the remaining 65 per cent to specification. Once the plant was in operation, it was found that all the gasoline could be taken overhead of 21 plus Saybolt color, with a reasonably low copper cup gum content. Also, that this gasoline was blended with straightrun gasoline, and acid treated and rerun gasoline and pressure distillate in the proportions produced, that the gum content of the finished blend was much lower than that indicated by the constituents. However, this discovery profited nothing at this time. Universal Oil Products Co. offered to their licensees an inhibitor to gum formation. The Pennzoil Co. immediately began the use of this chemical and have continued up to the present time.

This unit has been operated with entire success for cracking gas oil, kerosene and reforming straightrun gasoline. One of the large factors in the economy of operation has been the use of gas engine drives on the charging and recycling pumps. With some slight modifications in design, today it operates 30 days on stream and one day off for cleaning and inspection. The charge now is gas oil of from 36 to 38 A.P.I. gravity.

Inspection of charge and product average yields for continuous operation of one month and operating conditions follow:

Charge		Gasoline	
Gravity	38.0	Gravity	62.3
I.B.P.	304	I.B.P.	90
10%	473	10%	130
20	518	20	148
30	560	30	180
40	580	40	212
50	593	50	240
60	614	60	262

Residuum

Gravity A.P.I.	18
Vis. 122° F. Say. Furol	25
Precip. No.	1%

Charge		Gasoline	
70%	633	70%	290
80	654	80	314
90	690	90	340
Endpoint	760	Endpoint	364

Octane No., C.F.R.	67
V.P., Reid	10.3
Gum (copper dish)	3 mgm.
Ind. period oxygen bomb	240 min.
Inhibitor added	0.015%

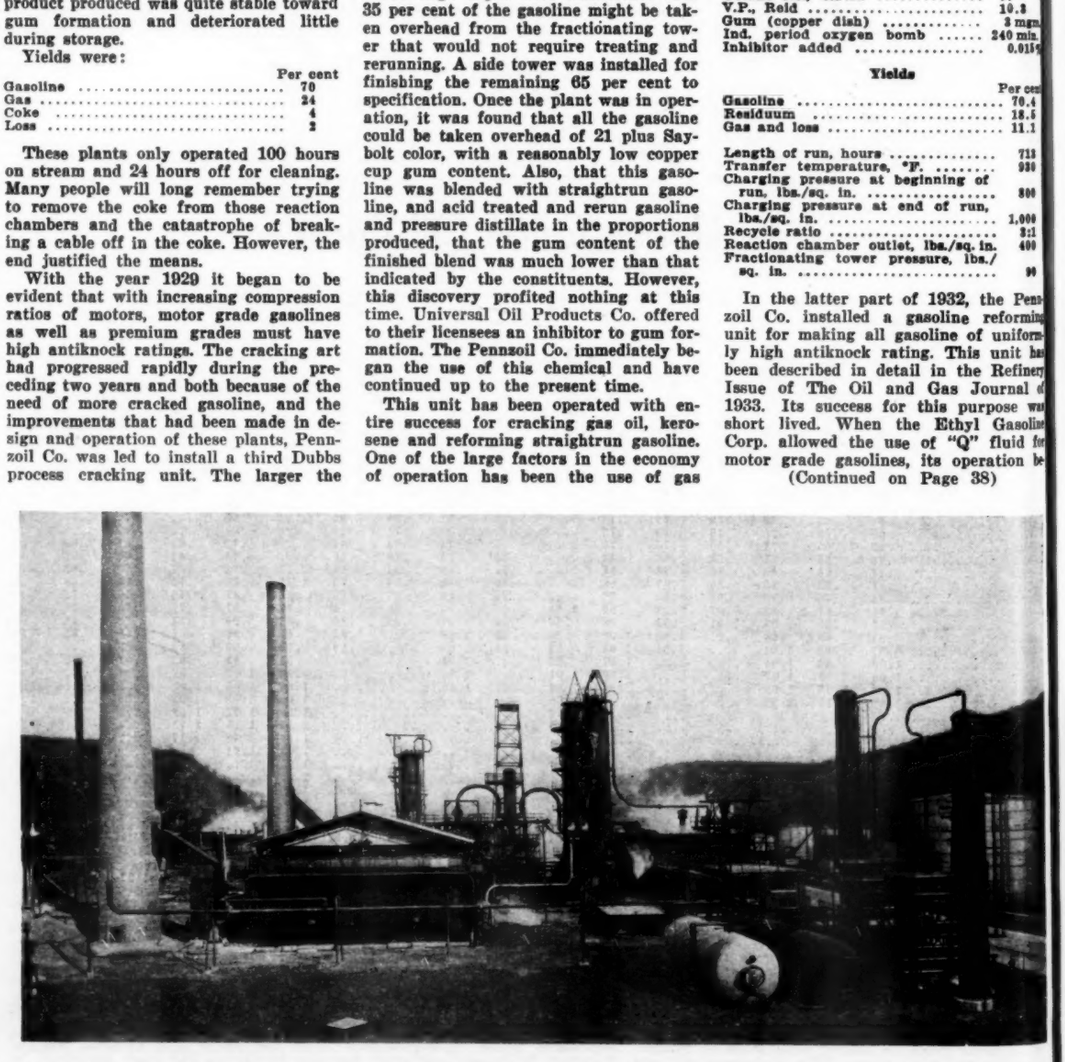
Yields

	Per cent
Gasoline	70.4
Residuum	18.5
Gas and loss	11.1

Length of run, hours	713
Transfer temperature, °F.	930
Charging pressure at beginning of run, lbs./sq. in.	800
Charging pressure at end of run, lbs./sq. in.	1,000
Recycle ratio	3:1
Reaction chamber outlet, lbs./sq. in.	400
Fractionating tower pressure, lbs./sq. in.	90

In the latter part of 1932, the Pennzoil Co. installed a gasoline reforming unit for making all gasoline of uniformly high antiknock rating. This unit has been described in detail in the Refinery Issue of The Oil and Gas Journal of 1933. Its success for this purpose was short lived. When the Ethyl Gasoline Corp. allowed the use of "Q" fluid for motor grade gasolines, its operation be-

(Continued on Page 38)



General view of cracking equipment at Pennzoil Co. plant in Oil City, Pa. In the foreground to the left is shown a reforming unit recently converted to a residuum cracking unit

Decreasing Reserves and Increasing Prices Seen as Outlook for the Petroleum Industry

By CARROLL H. WEGEMANN
Consulting geologist, Houston and New York*

During the past year the outlook for the petroleum industry, to judge from the prices of oil stocks, leases, crude oil and refined products, has undergone a very decided change for the better. To what extent such change is justified should be evident from a consideration of certain fundamental facts, an analysis of which is presented in the following:

That these facts were not appreciated until recently by many of the oil companies is evidenced by the prices at which excellent oil properties could have been purchased only a year or two ago. It is true that lack of ready money and doubt as to the future of industry in general were in part responsible for the inactivity of that period, but there was also the wide-spread feeling that we had a supply of oil in this country sufficient for an unlimited period. Too many prophets had in the past predicted the speedy exhaustion of our oil supplies only to have their predictions proved false by the discovery of greater and greater reserves. Executives harassed by financial worries and faced with the flood of oil pouring from East Texas were content to meet their immediate problems and let the future take care of itself.

Forecasts Confirmed

A few far-sighted men, however, saw the situation in its true light and their analyses have been amply borne out by subsequent events. One of the best of these analyses is that of Wallace E. Pratt, published in The Oil and Gas Journal of July 16, 1931. Every statement in that article has stood the test of two and one-half years. Another most excellent resume is that of Max W. Ball, published in the Mines Magazine for February, 1932, and The Oil and Gas Journal Feb. 25, 1932. The present writer acknowledges his indebtedness to both of these authors.

The price of oil, crude and refined, has depended in the past directly upon supply and demand. It is an unfortunate fact that from the nature of oil accumulation it is possible for operators anxious for immediate returns to force upon the market oil in such quantities as to break the price below the cost of production and to threaten the entire industry with ruin.

The fact that we know where all our timber reserves are located does not impel us to cut all of these reserves in one year, thereby forcing the cost of lumber down to ridiculous levels and leaving us with a shortage for years to come. But we did an equally foolish thing in East Texas in 1931, just as we did in California in 1923 and in Oklahoma in 1914 (to mention only a few glaring examples of disaster).

To continue the comparison, we do not criticize the great lumber companies for supplying us only with what lumber we need at a price which insures to them a fair profit and prevents us, the purchasers, from wasting a valuable natural resource, but we have in the past severely criticized the great oil companies for refusing to take oil or for taking it at a price which would discourage unnecessary production, although they were using the only means at their command to conserve one of our greatest natural resources.

Essential Difference

The essential difference in the two great industries mentioned above lies in the fact that an operator in the lumber business can cut any ten acres of timber which he may happen to own without influencing materially the development of the adjoining lands; whereas an operator in the oil business who happens to control 10 acres in the heart of an oil pool may, by insisting on producing his 10 acres, lower the gas pressure and consequently lower oil recovery over the entire field. As the gas pressure is the principal force which drives the oil through the pores of the reservoir rock to the wells and as without this force most of the oil could never be recovered, other operators are obliged, regardless of the condition of the market, to develop their lands before the gas pressure is exhausted if they would recover their oil at all. Even in fields where gas pressure is not important the lease contract under which the land is held requires the operator to protect the landowner by offset drilling against the drainage of oil by wells on adjoining properties. It is thus that drilling once started in a field must of necessity spread over he entire area.

To the operator with limited capital who must obtain an immediate return on his investment, the rapid development of his property is all important; whereas to the large company seeking to maintain a fair margin of profit and a supply of oil for the future such development is often embarrassing. Thus rival interests clash and concerted action among them becomes difficult if not impossible. The restraint of government is needed under such circumstances and has been of late exercised with good effect by limiting the output of producing fields to market requirements. Oil is better preserved in its natural reservoir than in storage above ground and the cost of excessive storage is an unnecessary burden on the industry and the consumer.

If Proration Is Abandoned

The Government's right, however, to exercise control over private property has recently been brought in question by the decision of a Texas Federal District Court in the Panama and Amazon cases, and the petroleum industry now awaits with interest and no little anxiety the final decision of the Supreme Court of the United States; anxiety, because the value of the control of production has been amply demonstrated during the past six months, and it is generally admitted that if such control continues, preventing periods of overproduction and maintaining fair prices, the petroleum industry has definitely emerged from the sea of oil in which it has been struggling for many years.

If proration is not maintained, what then? In the year 1933 the United States produced 898,874,002 bbls. of crude oil which was derived from the different districts as follows:

Texas (light gravity)	333,460,601
Texas (heavy gravity)	62,992,380
Oklahoma	181,505,993
California	173,084,989
Kansas	41,942,000
Eastern fields	41,304,951
Louisiana	24,635,967
Rocky Mountains	14,736,906
Southeast New Mexico	13,602,269
Arkansas	11,607,946

It is evident from the above that Texas with a production of 396,452,981 bbls. is the dominant factor in the petroleum industry today, and in Texas the great East Texas Field is by far the most important. What happens in East Texas influences the price of oil from Wyoming to Pennsylvania. The question resolves itself then into what will happen if proration is lifted in East Texas.

East Texas had produced up to the first of the year about 400,000,000 bbls. No one knows what it will produce ultimately but estimates vary from 1,500,000,000 to 2,500,000,000 bbls. If it produces ultimately 2,000,000,000 bbls., it has already produced one-fifth of its total content. During the production of this amount of oil the gas pressure in the reservoir sand, which originally stood at 1,625 pounds per square inch, has dropped to about 1,270 pounds. The wells will cease to flow when the pressure drops to between 800 and 1,000 pounds per square inch, for such pressure is insufficient to lift the column of oil which fills the wells from the oil sand to the surface.

The cost of installing pumping equipment on a well is about $3,000 and the cost of the pumping operation itself will at first run about 15 cents per barrel above flowing cost, which is about 10 cents, and will gradually increase as the production per well decreases. It is obvious that when the wells must be pumped there will be no incentive to anyone to produce oil for 10 cents per barrel, the price at which it sold in 1931. When the flowing life of East Texas is finished, therefore, there will be little danger of fluctuations in price comparable to those which have occurred in the past, unless indeed another East Texas is discovered.

Life of East Texas Field

How long the East Texas Field would flow if opened to the capacity of its pipe lines it is of course difficult to predict. The pipe lines from the field will carry about 1,000,000 bbls. per day. By opening the field to this amount the loss of gas per barrel of oil produced would be much greater than at present and the pressure in the field would, therefore, decline more rapidly in proportion to the oil taken than it does under proration. It is probable, therefore, that the flowing life of East Texas, producing at a million barrels per day, would be limited to a short time, perhaps only a few weeks, and it follows that whether proration does or does not hold East Texas is no longer a serious menace to the oil industry.

In July, 1931, Mr. Pratt, in the article above referred to, estimated that we had 10,000,000,000 bbls. of known underground reserves. In other words, that we had without making further discoveries 10 years' supply of oil in this country. Were we told that we had only coal enough to last 10 years or iron enough for the same period, and that we did not know how much more we might be able to find, we would be decidedly uneasy regarding the future of America. But, for some reason, we are unperturbed regarding our oil supply, apparently feeling that as new fields have in the past always been found we can count on finding others as necessity demands. The fact that oil in the last 30 years has become one of the most vital elements in world progress either in times of peace or war gives us little concern. We even place a tariff on imports of petroleum, thus encouraging our people to deplete our own reserves while foreign nations conserve theirs against the time when America must own herself no longer independent as to the motive power of her navies, her industries, her transportation. When that day comes the United States will undoubtedly pay dearly for her lack of foresight.

Dwindling Reserves

Two years and eight months have passed since Mr. Pratt made his estimate of 10,000,000,000 bbls. In that period we have used about 2,500,000,000 bbls. and have found one greater field, Conroe, 40 miles north of Houston, Tex., which is estimated to contain a maximum of 750,000,000 bbls. It is interesting to note that this one field will probably produce as much oil as has been obtained to date from all the salt domes of the Texas Gulf Coast. Several other fields have been discovered, the best of which is Greta, north of Refugio, Tex., probably good for 50,000,000 bbls. But these are insignificant in comparison to our needs. Outside of Texas no fields large enough to influence materially the situation have been found in several years.

The underground reserves of the United States, therefore, have in the last two years and eight months been reduced by about 1,700,000,000 bbls., so that we have a known reserve of about 8,300,000,000 bbls., or a supply for eight and one-quarter years.

Mr. Pratt has pointed out the necessity of continued search for new fields if our oil supply is to keep pace with demand. The great finds of the past 10 years have been due to the intensive prospecting campaign begun during the war. Thousands of dry holes have been drilled in order to find the pools which have been developed, and Mr. Pratt estimated that 20,000 wells, dry and productive, must be drilled yearly to keep up our supply. We have not only fallen short of this number during the past four years, but have largely discontinued the geologic work which is one of the most important factors in oil finding. This work is now being energetically prosecuted, but we must either make up the lost time of the last four years or draw heavily on our reserves. To date we have chosen the latter course.

We are apt to forget that the regions

*In Mines Magazine.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	May 31, 1934	Apr. 30, 1934	May stock changes	Dec. 31, 1933
1. Non-gasoline-bearing crude, residuum, gas and Diesel oils	90,365,963	92,416,946	—2,050,983	92,664,274
2. Gasoline-bearing crude	35,366,252	35,658,654	—292,202	35,879,163
3. Unblended natural gasoline	2,503,672	2,462,175	+41,497	2,304,194
4. Gasoline (not including distributing and service stations)	12,738,692	12,813,298	—79,606	12,687,385
5. Naphtha distillates	*1,044,221	*1,087,446	—33,225	*1,347,891
6. All other stocks	†7,091,292	†6,771,065	+320,227	†6,876,360
7. Total	139,130,192	141,214,584	—2,084,392	151,759,267
*Estimated amount of unfinished gasoline contained in Item No. 5	919,418	944,699	.....	1,034,397
†Coke included in Item No. 6	616,611	619,814	.....	620,313

The wording of Items 1 and 2 has been changed to agree with the designation used by the San Francisco office of the Bureau of Mines in their California petroleum statement. Beginning this month, the Pacific Coast territory again consists of only the five states of California, Oregon, Washington, Arizona and Nevada. That portion of Idaho north of the Salmon River, included in March and April reports, has been dropped.

in the United States in which oil-producing rocks are present are limited and their limits are definitely known. In the intensive search for oil which has been going on for the past 25 years, the surface geology over most of the promising areas has been studied by geologists and the more evident folds which give promise of oil accumulation have been discovered. The introduction of the seismograph and torsion balance have been responsible for the discovery of many new pools which it was impossible to locate by other means, and recent improvements in these instruments and in the interpretation of observations obtained with them have greatly increased their efficiency.

As each month passes, however, new areas are tested and condemned, and the area of prospective oil lands is thereby diminished. It is true that improved methods of drilling are enabling us to reach producing sands which it was impossible to reach only a few years ago. Undoubtedly there are many improvements yet to be made. But there is a limit to our oil reserves and the discovery of each new field brings us just so much nearer to that limit. That oil producers are becoming more and more aware of this fact is evidenced by the pronounced increase in the price of leases and royalties which has taken place during the past year.

In 1933 the United States produced according to the Bureau of Mines 898,874,000 bbls. of oil. Our imports of crude oil and refined products were 46,271,000 bbls. We produced also 33,610,000 bbls. of natural gasoline and 1,473,000 bbls. of benzol, making our total supply 980,228,000 bbls. Our exports of crude oil and refined products were 106,525,000 bbls., our domestic consumption was 865,447,000 bbls. and our total consumption, including exports, 971,972,000 bbls., or almost 1,000,000,000 bbls. of oil in one year. In 1932 the domestic consumption was 835,482,000 bbls. and our total consumption including exports 938,757,000 bbls. These figures are so enormous that it is difficult for us to comprehend them.

Startling Fact

It is interesting to note that the total production of the United States since the discovery of oil in the Drake well in 1859 has been 15,684,000,000 bbls. up to January 1, 1934. If we do not increase our present production and continue our present exports which are not excessive, we shall need in the next 16 years as much oil as we have been able to find and produce in this country since the beginning of the oil industry. It is also interesting to note that the production of the entire world since oil was first produced in Rumania in 1857 is in round numbers 24,000,000,000 bbls., so that the United States has produced more than three-fifths of the production of the entire world.

Our resources have been enormous but we have used them recklessly, and it is inevitable that before many years the United States will be compelled to depend upon imports from foreign countries for one of the most vital elements in modern civilization. To cheap power and transportation more than anything else we are indebted for the wonderful development which has taken place in this country in the twentieth century. When the United States no longer possesses her own supply of crude oil she will find herself at the mercy of foreign ocmpetitors in matters both of supply and price. It is no wonder that the large oil companies are today purchasing oil properties at prices which are several times those paid in 1932, and it is obvious that, when we really experience difficulty in obtaining crude oil, any individual or company that owns an interest in this great natural resource will be in a most enviable position.

This discussion would be incomplete without mention of the enormous burden of taxation imposed upon the oil industry and passed on to the consumer. The refiner sells gasoline for about 5½ cents per gallon and to this must be added the costs of an elaborate system of distribution. In some states direct taxes on the sale of 1 gallon of gasoline are now 9 cents per gallon or 150 per cent of the refinery price. In addition to this tax there are income taxes which must be met by the companies and again passed on to the consumer. No other essential industry is so burdened with taxation.

It is apparent from the above that as the oil company receives only a part of the price paid by the motorist for gasoline, the increase of 1 or 2 cents per gallon in the price means more in percentage of profit than we are wont to consider.

In summary, the outlook for the petroleum industry is one of decreasing reserves and increasing prices. For the companies controlling crude oil it is excellent, for those lacking reserves the struggle will be increasingly difficult. We are not at the end, but the end is in sight. There yet remain untested areas and prospective sands undeveloped. We have in tested reserves at least eight and one-quarter years supply of oil. How many new pools will be developed no one can predict, but we will probably consider their discovery from now on as a blessing rather than a renewed threat of overproduction.

Convert Reforming Unit to Cracking Operation

(Continued from Page 34)

came uneconomical. Reforming of straightrun Pennsylvania gasoline cannot compete with "Q" fluid. But it is also true that merely adding "Q" fluid to Pennsylvania straightrun gasoline does not make a suitable gasoline, neither volatility nor octane rating being correct. The need for cracked gasoline was still as imperative as it had been.

In searching for some quick method for converting this unit to cracking, the following plan was tried: A line was connected from the receiver, used as a surge tank for quenching oil, to the suction of the charging pump with a Foxboro flow controller in the line. A flow meter was installed in the suction line of the pump also. Therefore, by controlling the speed of the pump and feeding in a definite fraction of the volume pumped with the flow controller, any definite recycle ratio could be obtained. It was found that with a recycle ratio of 1.25 : 1 that 1,500 bbls. of kerosene could be cracked per day with 30-day length of runs. At the end of this time, sufficient coke would have collected in the Tube-Flo heat exchangers to seriously impair their heat transferring ability. Also, because the recycle oil had to be cooled before introducing into the suction line of the pump, the heating requirements were very high for cracking. Because of the higher temperature of vapors entering the exchanger for cracking than for reforming, trouble was experienced with the Tube-Flo exchangers from erosion, these being constructed of plain carbon steel. Griscom-Russell Co., designers and builders of these exchangers, replaced the parts subject to this erosion with specially heat treated chrome-molybdenum steel and from that time, there has never been another replacement required on these exchangers.

With this type of operation, yields were good but a heavy load was thrown on the furnace as the feed entered the furnace at only 300° F. and had to be heated to 940° F. through 48 convection tubes and 43 radiant heating tubes, both banks 30 feet long. Also with the low recycle ratio, trouble was experienced in producing a gasoline with the low 20 per cent distilled point desired, this being the operating control as the cracked gasoline was to be used in blending with straightrun gasoline to produce a finished motor gasoline of proper volatility.

Hot Oil Pump

With this experience at hand, a hot oil pump was installed for recycling hot reflux. This pump was a horizontal outside end packed duplex plunger pump manufactured by the National Transit Pump & Machine Co. The drive was a 80-horsepower, 6-cylinder vertical gas engine manufactured by the same company. The engine was geared to the pump with a 10 : 1 gear reduction.

Some increase in charging capacity was expected by the charge entering the furnace at a higher temperature. Not wishing to increase the velocity of vapors through the heat exchangers, a third Tube-Flo exchanger was installed in parallel with the two in use. All of this work was done while the unit was in use and only two extra days' shutdown time were required for connecting on to the unit during a regular shutdown.

With these additions, the unit is now cracking 2,000 bbls. per 24 hours of kerosene distillate with ease. Using a 1.5 : 1 recycle ratio, the volatility desired is obtained. Thirty-day runs are completed with no apparent change in operating conditions. Longer runs could be made but it has become a policy of the Pennzoil Co. to operate no high temperature, high pressure equipment longer than 30 days without complete inspection. By shutting units down before forced shutdowns, less time is required for cleaning out and more may be devoted to inspection.

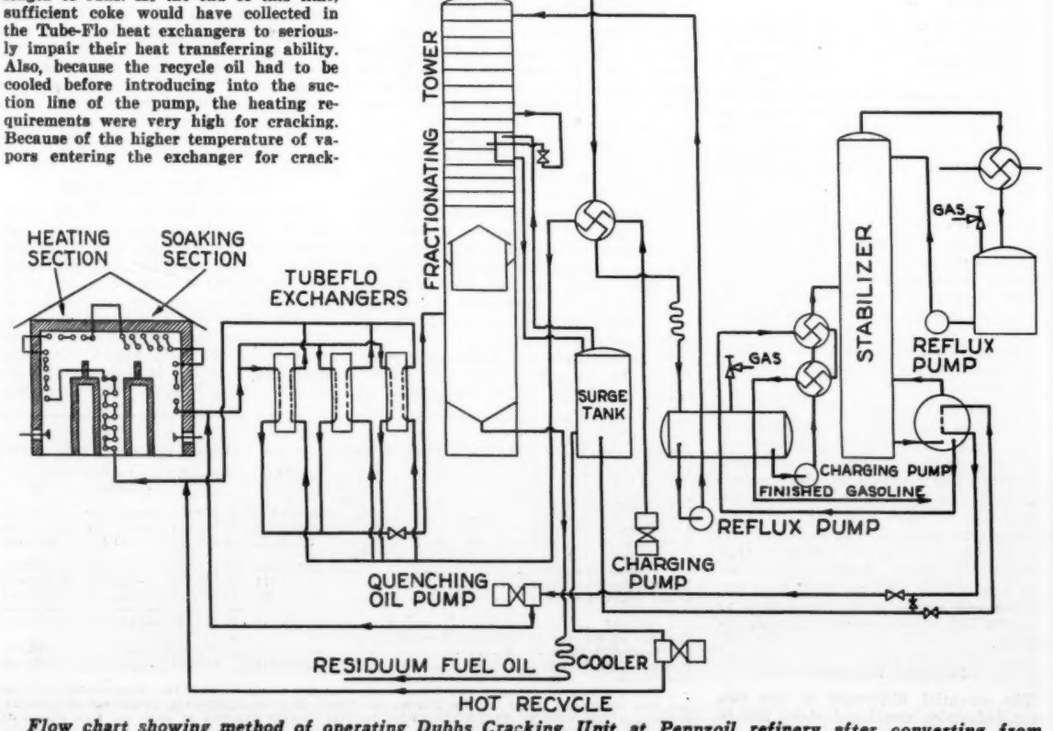
Coke formation in this unit is nil. Heat exchangers and some soaking tubes are rattled with air turbines at the end of each run. There is no more coke than ordinary scale in a boiler. There is no reaction chamber where coke may collect and the residuum in the bottom of the flash chamber is agitated to prevent coke settling there. After one year of operation, the return bends were removed from the convection bank tubes and the first 30 heating bank tubes, and were found to be almost as clean as the day they were installed. In a year and three months' continuous operation, there has never been a tube failed in this furnace.

The following are average operating data and yields and inspections of charge and products:

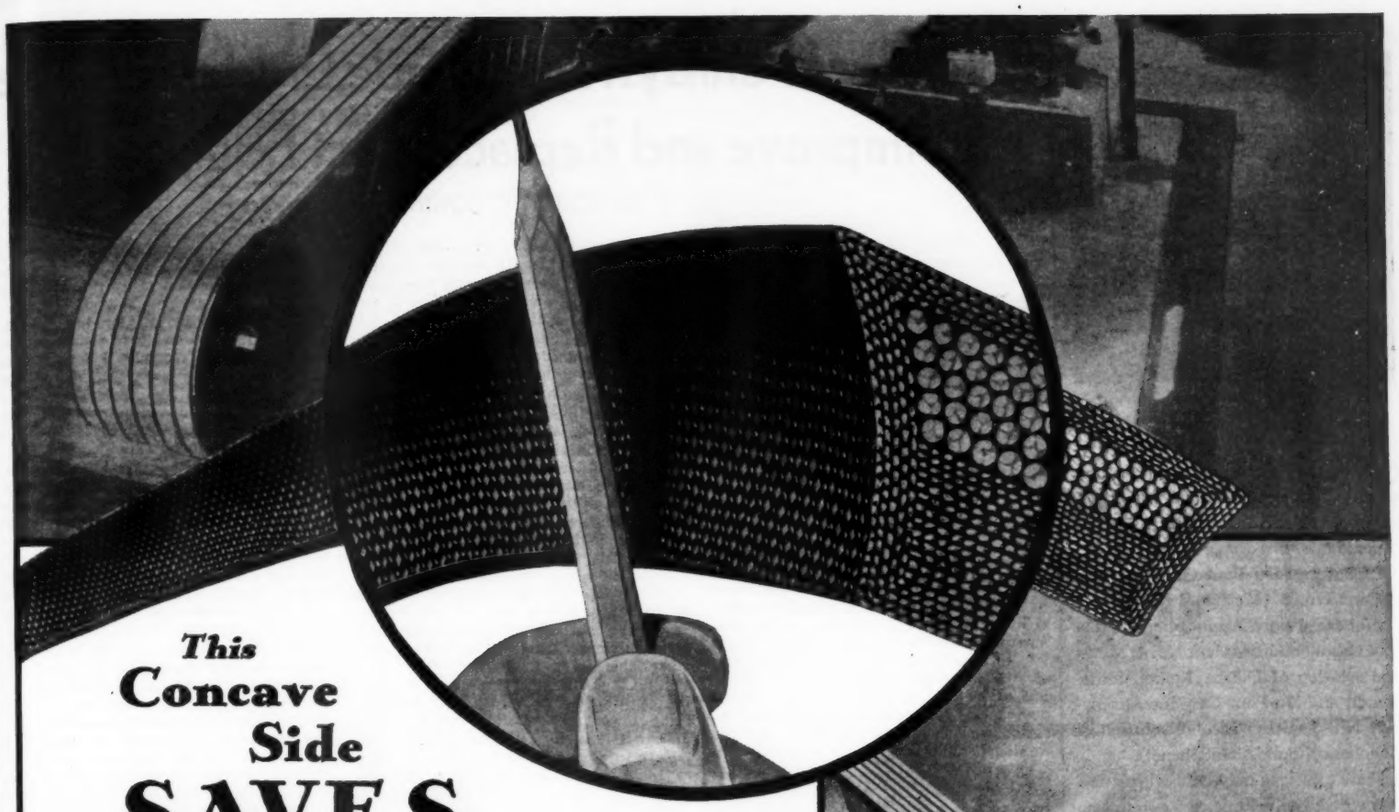
Charge		Gasoline	
Gr.	45.0	Gr.	63.3
I.B.P.	226	I.B.P.	82
10%	308	10%	117
20	358	20	148
30	394	30	180
40	434	40	212
50	468	50	240
60	496	60	266
70	526	70	286
80	560	80	308
90	612	90	336
Octane No., C.F.R.			66
Vapor pressure, Reid			11.5
Gum, copper dish, mgm.			3
Ind. period (oxygen bomb), min.			240
Inhibitor added, per cent			0.01%
Residuum			
Gravity, A.P.I.			10
Vis., 122° F., Saybolt Furol			16
Precip. No., per cent			.5
Yields			
Charge, bbls., in 24 hrs.			2,000
Gasoline, per cent			77.5
Residuum, per cent			7.5
Gas and loss, per cent			15
Operating Data			
Temp. oil entering furnace, °F.			500
Vapors leaving heating tubes, °F.			947
Vapors leaving soaking tubes, °F.			950
Vapors entering exchanger, °F.			800
Vapors leaving exchanger, °F.			685
Vapors leaving fract'ng col., °F.			385
Pressures raw oil charge pump, lbs./sq. in.			780
Heat exchanger outlet, lbs./sq. in.			600
Fractionating column, lbs./sq. in.			90

It is of interest to note that at the end of 30 days' operation cracking kerosene, the charging pressure had only increased to 800 pounds per square inch and the temperature of the oil entering the furnace had only decreased to 485° F.

For low initial cost, simplicity and economy of operation, yields and quality of product, we do not believe this plant is excelled by any in operation today.



Flow chart showing method of operating Dubbs Cracking Unit at Pennzoil refinery after converting from reforming operations



This
Concave Side
SAVES DOLLARS

A V-belt bending around its pulley is under conflicting stresses.

The top is under tension and grows narrower. (Fig. 1). The bottom is under pressure—therefore it widens. These stresses force a straight-sided V-belt to *bulge* in the sheave groove. (Fig. 1) This means uneven wear on the belt sides—*shorter life!*

Now look at Figure 2. There you see how the concave side of the Gates Vulco Rope (U. S. Patent 1,400,539) exactly corrects this bulging. It insures a perfect fit in the sheave groove—uniform wear, *longer life!* It insures even, side-wall grip on the pulley—no slip—full delivery of power.

These two definite dollar savings are the direct result of the patented concave side—found only in Gates Vulco Rope Drives.

Engineering service and stocks available in all large industrial centers

WRITE *the GATES RUBBER CO., Denver, Colorado for Valuable Book on Transmission: FREE*

GATES VULCO ROPE DRIVES

THESE GASOLINE
ANTIOXIDANTS
solve the stabilization problem for the Small Refinery

So that the small refiner may profitably adopt the new refining process made possible by the use of gasoline antioxidants, there have been developed the following: Du Pont Gasoline Antioxidant No. 3 (Methanol solution of Monobenzyl-para-Aminophenol), Du Pont Gasoline Antioxidant No. 4 (Methanol solution of Dibenzyl-para-Aminophenol) and Du Pont Gasoline Antioxidant No. 5 (Ethyl Alcohol solution of Monobenzyl-para-Aminophenol).

These solutions may be used in refineries where the volume of consumption does not justify the installation of special equipment for incorporating solid inhibitors into gasoline. Also, wherever the refiner prefers the liquid to the solid form, even at low temperatures, these antioxidants remain in solution.

And best of all, they offer the following money-saving benefits, which demonstrate their superiority over the old sulfuric acid washing method of stabilizing cracked gasolines:

1—Effective, economical insurance against gum formation.

2—Reduction or elimination of acid washing costs.

3—Higher yields of gasoline due to minimizing acid treatment losses.

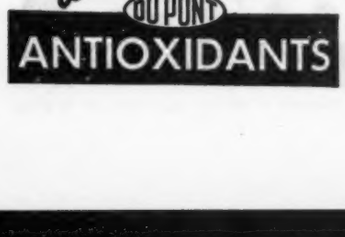
4—Maximum preservation of anti-knock properties.

5—Saving of redistillation expense.

6—High degree of color stability.

7—Decreased manufacturing costs without sacrifice of quality.

E. I. DU PONT DE NEMOURS & CO., INC.
Organic Chemicals Dept., Wilmington, Del.
WRITE TODAY FOR FREE SAMPLES



Refiners of Pennsylvania Grade Crude Continue to Improve and Replace Plant Equipment

By ROBERT C. CONINE

OIL CITY, Pa., July 9.—Refinery modernization projects now under way or recently completed in the Pennsylvania Grade crude oil area from Wellsville, N. Y. to Coraopolis, Pa., represent an investment af nearly three and a half million dollars to date and reflect clearly the attitude of the region's operators in respect to the future of their business. With few exceptions those refiners who have not junked batch installations in favor of the latest distillation equipment plan to do so at the earliest opportunity. Several of those whose plants are the last word in fractionation and rerunning are now planning to add cracking or reforming units, and a smaller number are seriously weighing the merits of the various solvent extraction and dewaxing installations.

The larger refineries of the region installed their first pipe stills and bubble tray towers about six years ago. Several of the smaller plants followed with semi-continuous units. At all of these refineries the batch batteries remained in constant use, both for primary distillation and for rerunning and reducing stocks. About six refineries were involved in this pioneering step from distillation to fractionation. The introduction of modern cracking equipment is of much more recent date, and radical changes in these installations to meet conditions peculiar to the region have been made in the past few months.

Product Is Improved

The primary distillation and rerunning columns which have been installed in some 19 of the region's refineries are particularly notable for their multiplicity of bubble cap trays, and their resulting flexibility and close fractionation. The refiners themselves have contributed largely to the designing of pipe stills and towers most suitable for handling the Pennsylvania Grade crude oil, and the results in higher yields of lub materials having improved characteristics account for the rapidity with which modernization has spread over the region. Improvements continue to be made in tower and still design and it is understood that considerable progress is being made in vacuum tower processing of materials proposed for use as extreme pressure lubricants.

In the following are listed construction projects now under way or recently completed:

Valvoline Oil Co., at Butler, has completed work on its new 138-foot fractionating column and naphtha side stripper, and a 50-foot lub rerun column. The capacity of the main tower is rated at 2,500 bbls. daily, and that of the lub unit at 2,000 bbls. daily. This project includes considerable new tankage, two water conditioning towers, and additions to the barrelling house. The company recently installed completely automatic canning and packaging equipment to handle the quart and 5-quart sizes offered at service stations.

Franklin Creek Refining Co., at Franklin, has awarded contracts for the erection of a 2,000-bbl. daily capacity fractionating column and a lub rerun unit. Other installations will include clay burning equipment, new filters, centrifuges and tankage.

Crew-Levick Co., at Titusville, already has its 3,000-bbl. daily capacity fractionating tower in operation, and its current expansion program centers upon a new power plant equipped with two 450-horsepower boilers. A fully automatic canning plant and an ethyl blending plant were recently put into operation at this refinery. The barrelling house will be enlarged by the addition of another story.

United Refining Co., at Warren, has its 2,500-bbl. crude distillation unit nearly completed and has ordered a 2,000-bbl. rerun unit to be ready for operation about September 1.

Independent Refining Co., at Oil City, is operating a new 2,500-bbl. primary distillation tower and rerun unit, in addition to its older fractionating columns. Recent installations include water cooling tower and reconditioning equipment. New buldings include a brick and steel-glass laboratory.

Oil Creek Refining Co., at Titusville, in operating a new 1,500-bbl. fractionating tower, and plans to add a rerun unit. Recent installations include centrifuge equipment for handling as high as 1,000 bbls. of solution daily, and special electrically operated chilling tanks heavily insulated with cork.

Bradford Oil Refining Co., at Bradford, installed a 1,500-bbl. capacity steam atmospheric tower. This tower is 100 feet high and has 38 bubble trays above the expansion section, and 7 trays below.

Pennsylvania Oil Products Co., at Eldred, is operating a 3,000-bbl. capacity column in both primary distillation and rerunning of lub stocks. Improvement in lub handling facilities progresses steadily at this modernized refinery.

Freedom Oil Works Co., at Freedom, junked its Coraopolis refinery and moved all the equipment that could be utilized to Freedom. The Freedom plant was then enlarged by the addition of a new pipe still, clay burners, filters and tankage. At this refinery a 2,500-bbl. capacity fractionating tower and an 800-bbl. capacity vacuum lub column are in operation.

Bradford-Penn Refining Corp., at Clarendon, is progressing rapidly with its program of substituting up-to-date equipment for obsolescent units. Pipe stills and a bubble cap tower have taken the place of old cheese box stills, and similar forward steps are contemplated in other departments of the plant.

Complete New Refinery

Allegany Refiners, Inc., at Bolivar, is a completely new refinery from boiler house to laboratory. Crude is gathered in the New York Field by the company's own pipe lines, and refined products are loaded into the company's tank cars in the plant yard. A second fractionating column, and possibly a reforming or cracking unit are under consideration. At present the refinery has a daily capacity of 1,500 bbls.

W. H. Daugherty & Son Refining Co., at Petrolia, is operating a new 2,000 distillation unit. The company, which is a Sonneborn subsidiary, also completed installation of a Chemical Construction Co. acid sludge recovery unit some months ago. This is another completely modern plant and one of the few in the area making a long residuum.

Wolverine-Empire Refining Co., at Oil City, has carried out two major construction projects in the past year and a half The first was the erection of a large boiler house, tipple, mechanical stokers and coal conveying machinery. The second was the installation of a fractionating tower and rerun unit with the two pipe stills. Filtering and dewaxing equipment were included in this program as well as the addition of considerable tankage.

Canfield Oil Co., at Coraopolis, is another refiner operating to long residuum and its recently completed fractionating tower installation is particularly adapted to the production of a wide range of special naphthas and distillates suitable for use in range burners. The capacity of the unit is 1,500 bbls. daily.

Sloan & Zook Refining Co., at Warren, have been operating their 1,500-bbl. capacity fractionating tower for several months. The plant had nothing more modern than a battery of batch stills when the present owners took it over about a year ago. Today there is a new boiler plant, filters, super-centrifuges and clay burners to go with the new pipe stills and columns.

The Pennzoil Co., at Oil City, continues to add important equipment in the various departments of the company's two refineries. A few days ago the canning and packaging plant was made completely automatic by the purchase of a new machine to handle the 5-quart size cans at the rate of 40 a minute. Other recent additions include a new clay burner and a battery of super-centrifuges which nearly doubles the number of these installations at the plant.

Ultra-Penn Refining Co., at Bruin, operates a complete plant, running the gas oil to coke in a cracking unit. Crude capacity of the primary distillation unit is 1,000 bbls. daily.

While it is reported that five refiners in the Pennsylvania Grade crude oil region are seriously considering the installation of solvent extraction and dewaxing equipment in the near future, the only unit for this work which has been completed is the nitrobenzene plant of Sinclair Refining Co., at Wellsville. The installation will treat 800 bbls. of lub stock a day.

I. B. NEWTON DIES

LOS ANGELES, Calif., July 7.—Isaac B. Newton, who resigned a short time ago from the board of directors of the Union Oil Co. to eliminate any conflict with his duties as chairman of the board of the Federal Reserve Bank at San Francisco, died at his home in Los Angeles last week.

DISMISS DALLAS SUIT

DALLAS, Tex., July 9.—Because the retail price of gasoline in Dallas has increased to 13 cents a gallon, the mandatory injunction suit against the Continental Oil Co. and the Marathon Oil Co. by K. F. Roundtree, independent station operator, was dismissed on Roundtree's motion.

MRS. W. H. PARKS DIES

PETROLIA, Ontario, July 9.—Eliza Matilda Lamotte, widow of the late William H. Parks of Copleston, died here recently in her seventy-sixth year. A native of Madison, Wis., she came to Petrolia in the boom days, her father operating extensive oil properties. Her husband, who predeceased her 11 years ago, was also prominent as an oil producer. Two daughters and one son survive.

OIL FOR GRASSHOPPERS

EDMONTON, Alberta, July 9.—Experiments by the Alberta department of agriculture will probably lead to the general use of Alberta oil in the mixing of poison bait for grasshoppers. The experiments show that oil does not dry out so quickly as water and prolongs the efficiency of the bait.

Plan to Allocate Gasoline Production

(Continued from Page 13)

of the A.P.I. gravity to the average gasoline content of Mid-Continent petroleum. The skimming plant would be limited in its gasoline production to the percentage shown by this chart. Under the most favorable assumption his gasoline will be marketable as motor fuel in the 50 to 59.9 octane number classification at 6 cents per gallon and his topped crude as fuel oil in the 73.5 cents per barrel classification. Figure 3 shows the profitabilities that this skimming plant operator may expect when processing crudes of varying A.P.I. gravity. It will be noted that the maximum profit resulting from skimming 36 degree A.P.I. crude is only $100 per 1,000 bbls. charged if there is no loss and a zero operating cost, or with an operating cost in excess of 10 cents per barrel, skimming is unprofitable. It is evident from these curves that under the proposed price regulations the skimming plant could operate profitably on only high gravity crudes since the slope of the curves is steep. Figure 2 shows the approximate yields of gasoline (minimum 70 octane number) and fuel oil (Bunker B) obtainable when operating the modern cracking process. It will be noted that the per cent gasoline by cracking is approximately double that by skimming even on the high gravity crudes. The quality of the gasoline from the cracking operation would, in addition, command a 1 cent per gallon premium according to the Federal schedule. Upon the basis of these yields, the upper curves of Figure 3 have been drawn relating gravity with the profitability from the cracking operation. The gasoline price here was set at 7 cents per gallon and the fuel oil at only 60 cents per barrel. It will be noted that the profitability shows little variation with the gravity if it is assumed that operating cost does not vary. Maximum profits would be obtained when purchasing a 32 to 35 degrees A.P.I. crude or a 24 degree A.P.I. fuel oil which, under the proposed price schedule, could be purchased at 73.5 cents per barrel.

The two sets of curves in Figure 3 emphasize the different orders of magnitude of the profits comparing skimming and cracking. Even with the wide range of operating costs considered, the profitabilities of the two types of operation do not overlap. In addition, the cracking plant offers the advantage of flexibility in being able to show a profit on any type of crude or fuel oil.

In a skimming operation the realization of any profit is entirely dependent upon marketing the output of by-product fuel oil at the established price. In the cracking operation a different situation exists. The production of fuel oil is relatively small so that even though the residuum were discarded at no value, the operation would still show a substantial profit. In addition, the price regulation would not affect the rate that might be expected from the cracked residuum since the code, as then proposed, states that a minimum price of fuel oil above 14 degrees A.P.I. be specifically designated and that these minimums should not apply to fuel oils below 14 degrees A.P.I.

Figure 4 shows the relation between Furol viscosity at 122° F. and the A.P.I. gravity for straightrun and cracked fuel oils. It will be noted from this chart that in order to meet Grade 6 fuel oil (Commercial Standards CS12-33) a straightrun fuel oil must have a gravity of approximately 19 to 22 degrees A.P.I. whereas a cracked residuum will have a gravity range from 4 to 5.5 degrees A.P.I.

WINDSOR GAS RATES

WINDSOR, Ontario, July 7.—The Windsor city council has accepted a new and somewhat lower rate schedule offered by the Windsor Gas Co. The basic rates of 20 cents per 100 for the first 200 feet and 7½ cents per 100 for the next 4,800 feet are unchanged. For the next three units of 5,000 feet the rates are reduced 5 cents per 1,000 feet to 70 cents, 65 cents, and 60 cents, while over 20,000 feet the rate is 50 cents per 1,000 feet. There are special discounts of 15 per cent on bills up to $5 and 10 per cent on bills between $5 and $10 for the October-April period with 10 per cent discount on bills up to $5 in the May-September period.

Grant Price Differentials to Trackage Stations

(Continued from Page 28)

on the Pacific Coast under the California Marketing Agreement, coupled with plans now being formulated for strengthening the program for balancing crude and gasoline production to demand and for enforcing the oil code, are expected to bring about generally satisfactory conditions this summer."

E. G. Seubert, one of the principals, has issued a statement in regard to the participation of his company in the new plan and states:

"In a statement to the press on July 3, Secretary Ickes, as oil administrator, announced plans for ending gasoline price wars in certain areas and referred to the results of a conference he had early this week with officials of Standard Oil Co. (Indiana) and various others.

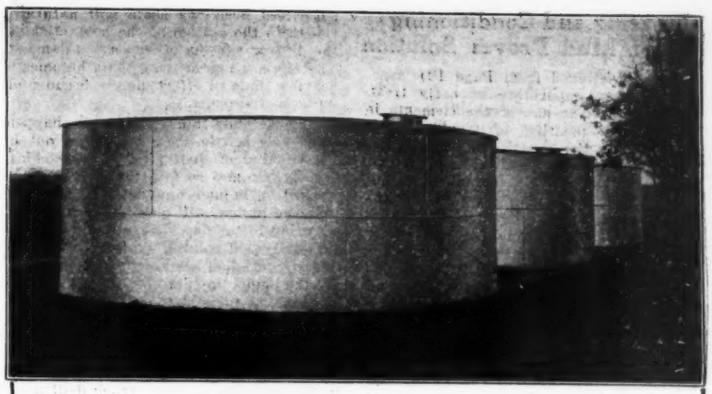
"Secretary Ickes stated that the Standard of Indiana officials offered to cooperate fully in an attempt to eliminate price cutting and to restore their prices to levels prevailing in surrounding areas where there have been no price wars; further that they would, as part of a program for market stability, sell their gasoline for 1 cent a gallon more than such independent dealers as the trackside operators.

"In order to make Standard of Indiana's position in this matter clear it seems desirable to amplify Secretary Ickes' brief statement. Our company is very ready and willing, and has been at all times, to do anything it reasonably can to eliminate the senseless price wars which have disrupted various markets where it operates. Without in any way aiming at price levels that would permit more than modest profits to be earned it is anxious to see normal markets established and maintained so that the industry can maintain employment, wages, and present markets for the crude oil and other materials it buys, and so contribute to steady improvement in the general economic situation. It consequenty welcomes the intervention of the petroleum administrator in the gasoline marketing situation with a view toward elimination of unsound practices, and will co-operate in every way possible.

"This company has even gone so far as to say that in certain localized areas where special conditions prevail it will, on an experimental basis, tolerate a differential of 1 cent between its Red Crown and certain other regular grade gasolines offered by trackside operators and one-half cent between its Stanolind and their third-grade gasoline.

"In making this concession to aid the petroleum administrator in his commendable effort to bring about market stability, Standard of Indiana has reserved the right to determine when, where, and how long it will tolerate the differential without fully meeting competitive prices on trackside or other competing brands. It has not agreed to a general policy of tolerating a differential and has reserved the right to continue straightout meeting of competitive prices in the areas not excepted and to return to flat meeting of prices in the excepted areas if later developments require such action in protection of its share in the gasoline business.

"This company does not recognize the validity of any of the arguments trackside and other cut-rate marketers have advanced in an effort to obtain government enforcement of a price differential between advertised and nonadvertised brands. It stands now as before on the principle that it has the same right as any other marketer to meet any price at which a competing marketer offers his products and must continue to have that right, regardless of any deviations which special conditions may cause to be made. It is believed that Secretary Ickes understands and concedes the correctness of this company's position."



WYATT WELDED TANKS

for Lease Storage

Prove Their Salvage Value—

The above view shows three Wyatt welded field tanks as they now appear in the Lucien Field of Oklahoma. These tanks were first erected in the Chandler field. They were salvaged at a cost no greater than bolted tanks of the same size. The same strapping tables applied at the new location.

Wyatt all welded steel field storage tanks conserve gravity as well as volume and remain tight.

We also offer welded gun barrels.

WYATT

METAL & BOILER WORKS

Capital $1,000,000

Plants at . . . **DALLAS AND HOUSTON**

Distributors:

Steel Tank Construction Co., Dallas, Texas.

Treating and Conditioning of Mud Proves Solution

(Continued from Page 10)

stressed the importance of early treatment of mud as one of the elements in successful combating of trouble conditions. It is the practice of Yount Lee Oil Co., whenever possible, not to wait until the trouble is encountered but rather have the mud in condition by the time the trouble zone is reached by building the mud up gradually and surely over a period of as much as several days in advance. It is not considered advisable to change the characteristics of the mud quickly.

Before going further, it would be well to explain the characteristics of heaving shale, as outlined by Mr. Halbouty, and something about how to counteract and combat the trouble. There are three types of heaving shale. First, there is a hard compact shale which is hard to drill; second, there is a hard, brittle shale which can be drilled into easily, and third, there is a sticky shale in which it is difficult to make hole.

Compact Shale

The first, or compact type of shale would be expected to have enough resistance to hold itself together, and would if the mud were in its proper condition. However, the mud probably contains free water and the shale contains a certain mineral (bentonite) which tends to absorb water from the mud very readily. Because of lack of colloidal material in the mud a poor wall is formed which is very porous and which acts as a filter for the passage of free water into the shale, permitting the water to be absorbed by the bentonite in the shale. This absorption causes the swelling of the shale, because if the shale were analyzed under a microscope, one would find that the bentonite is in layers with a layer of shale between that of the bentonite. As the bentonite swells a wedging effect takes place causing what is known in chemistry as an osmatic pressure which tends to grow with the swelling until a point is reached where the pressure becomes so great that the shale has to give way. The giving in is in the direction of the least resistance which is the drilled hole. Then the driller says, "It heaves and sticks the pipe."

Such action when started is difficult to stop and in a few hours the entire shale body is swelling and heaving into the hole. Here one can see the advantage of treating the mud before this shale is encountered.

However, if such a heaving condition takes place, the one thing to do is to pull up, if possible, above the heaving area, treat the mud thoroughly for its required characteristic to prevent the identical reaction that caused the heaving, and then continue drilling. It readily can be seen that if this shale heaves because of its bentonite properties absorbing free water from the drilling mud and because of a poor wall condition which permits the filtration of the water into the hole, the mud to be used would be one that would build an impervious wall with a minimum percentage of free H_2O.

Brittle Shale

The second type of shale, the one that is hard and brittle, breaks down very rapidly when it comes into contact with H_2O, simply because of its brittle texture. The shale is not of a compact nature and the water penetrates the interatices of the large pieces of shale and loosens the binding effect they naturally have. This loosening causes the brittle pieces to become dislodged from their position and follow the general movement of the mud upwards. This causes the leaching out of a cavity in the shale.

Two things can happen when this condition is reached. First, there is no wall built around this shale, which in turn causes the mud to circulate very freely and "wash out" more of the shale, resulting in larger cavities, which in turn leave the more resistant "non-heaving" shale which lies above the "washed-out" shale unsupported. Consequently, this unsupported overlying shale will naturally slough to the bottom of the hole, sticking the pipe or causing other serious damage. Therefore, a non-heaving shale becomes a heaving shale in effect simply because of its lack of support.

The second thing that can happen when this brittle shale is leached out is the sticking of drill pipe. The leaching usually becomes so fast that the shale is washed up in such quantities by the mud that the pumps will not handle the load, resulting in the depositing of the shale on the drill stem collars, shutting off circulation, and then sticking the drill stem. If the mud is not of such colloidal strength as to hold the shale in suspension, the pieces settle and drop over the drill collars, bit collars and bit, resulting in what drillers designate as a "balling" of the bit, and "shut off" circulation, and, in the majority of cases, stuck drill pipe.

One might conclude that this type of shale heaves because of its texture and looseness, its attack by free water, mud pressure, its turbulent flow causing leaching out of cavities and nonsupport of the overlying shale which really does the heaving. In such shales, a mud must be had that can build a fast, impervious wall, contain a high colloidal strength and plasticity, a mean viscosity, and an average weight. A mud which has the characteristics of a fluid while in motion and which can be handled easily by the pumps, yet one which changes to a plastic state by gelling while standing, is ideal in combating such conditions. This mud while under pressure has a low viscosity, yet is thin enough to insure rapid circulation which washes out any excess cuttings or heaving, preventing any accumulations in the hole around the bit or drill stem. At the same time, when the pumps are shut down, it becomes of such plastic nature as to prevent the settling of any cutting around the pipe.

Sticky Shale

The third type of shale, which is of the extreme sticky variety, also contains bentonite. The stickiness of the shale alone makes it difficult to be drilled because of the "balling" of the bit and the spudding which generally is done. The presence of bentonite adds to the difficulty a swelling condition as in the first type of shale. The shale becomes swelled and balled on the bit, necessitating spudding, and it is this spudding that causes the shale to heave, as in the majority of cases, when spudding, the hole also is swabbed, creating a tense vacuum pressure below the swabbing point and causing the "sucking-in" of the already disturbed shale. The practice of the Yount Lee Oil Co. under such conditions is to provide a mud that has such properties as to carry up immediately with it the cuttings, one that builds a good thin, impervious wall, has a very low viscosity and weight of not more than 10 pounds per gallon, possesses a high colloidal content and very little, if any, free water.

It is not unusual to find all three of these types of these shales in the same hole, one above the other with variations in between. This happened in Yount Lee Oil Co.'s No. 1 Boyt, a deep wildcat recently drilled in Chambers County. The entire thickness of these shales was 1,700 feet, but by proper treatment of the mud the entire 1,700 feet was penetrated and a string of casing set through every foot of it, the latter being seated in a break found just below the shale.

Must Study Conditions

From the foregoing, one can readily observe that for different types of shales, different requisites are necessary for the mud. Also it can be noted that the common factor to subsidize in the mud is free water and that a study of the conditions prevailing must be made by an engineer. The engineer should know above all the type of shale he is attempting to combat. With that knowledge, one half of his victory is assured, and his admixtures and chemicals will do the rest.

One of the most important factors to be considered in combating heaving shale is the dip of the shale and its angle of repose. Mr. Halbouty points out that definite significance is attached to this angle in that when the angle of repose is beyond the critical point the shale has a natural tendency to slough, regardless of the type, and definite mud characteristics must be had to overcome this tendency. Such a condition is common on the flanks of domes and an engineer in charge of mud work should have this factor of dip in mind constantly as there is only one conclusive and definite mud characteristic which can overcome the sloughing condition, Mr. Halbouty advises. What this characteristic is, he cannot reveal.

Killing Wild Gassers

There also are chemicals and types of mud that are used for fighting gas and drilling salt, crevices, etc., and each condition can be handled upon studying the situation. Mr. Halbouty has found that in fighting gas, mud weight, viscosity and colloidal content of the mud determine the success in killing a wild gasser. This was proven very definitely by the success the Yount Lee Oil Co. had in killing five gassers, two at one time, in a space of three months.

Drilling in salt has reached a point where the utmost precaution must be exercised in keeping the mud in such a condition that the overlying formations do not heave or give trouble. Certain chemicals are added by Yount Lee Oil Co. to the mud while a hole still is in the cap rock above the salt. These have a definite reaction when the salt is struck and drilled into, preventing the salt from eating out and killing the vital characteristics of the mud. This reaction keeps all the walls intact above the salt and prevents any of the formations from giving any trouble. This is demonstrated in a test (No. 6 Lynn) which Yount Lee Oil Co. now is drilling at Sour Lake in which more than 3,600 feet of salt already has been penetrated with 2,800 feet of open hole above.

Cavities are a problem of wide variation and there are chemicals that can be added to the mud, according to Mr. Halbouty, which if properly applied can fill any cavity of large magnitude.

Thorough mixing of the chemicals and admixtures with the mud before the mud enters the hole has been found essential to successful results in combating trouble conditions. Yount Lee Oil Co. in its work does not rely on just dumping the chemicals in pit but on the other hand makes a practice of adding the chemicals and admixtures in the mud stream in such a manner that a complete reaction is had before the mud reaches the mud pump from the flow line.

On Scientific Basis

The importance which Yount Lee Oil Co. attaches to the treatment of muds is indicated in the extent to which the company goes to insure exactness and thoroughness in all its work. Everything is done on a strictly scientific basis. Under Mr. Halbouty's supervision a very completely equipped laboratory has been provided. For mud work this laboratory probably is the most complete ever put in anywhere. With Mr. Halbouty are two assistants, D. O. Wade and F. W. Mueller. In the laboratory all samples of mud are thoroughly analyzed, the trouble conditions studied, and the proper chemical formulas for overcoming the problems worked out. All formulas are calculated carefully and the amounts and proportions of chemicals and admixtures handled with extreme accuracy. Delicate weighing and measuring instruments are used in the mixing of chemicals and admixtures for all tests.

All paleontological, geological and oil testing work also is handled through this laboratory, all this coming under the duties of Mr. Halbouty's department. The laboratory is located at the company's large tank farm adjoining the Spindletop Field.

Bureau of Mines Report on Petroleum and Refined Products for May

Crude petroleum: According to reports received by the Bureau of Mines, Department of the Interior, the production of crude petroleum in the United States during May totaled 79,870,000 bbls. This represents a daily average of 2,576,000 bbls., which is 50,000 bbls. above the daily average of the previous month but considerably below the level of May, 1933.

All of the major producing states and a majority of the others increased their output in May. The largest increase was recorded in Texas, the daily average for which increased from 1,064,000 bbls. in April to 1,079,000 bbls. in May. Unlike the experience in the past several months, the gain in Texas in May was recorded outside of the East Texas Field, notably in the coastal area, Van, and the Panhandle. Production in California showed a small increase in May as gains at Kettleman Hills and Huntington Beach offset losses elsewhere. Daily average production in the Oklahoma City Field increased 6,000 bbls. over April, this comprising the major portion of the State's increase. The area which showed the largest gain in production in May was the coastal district of Louisiana, which reached a new level of 60,000 bbls. daily, compared with an average of 49,000 in April. Practically all of the fields in the Louisiana coastal area have contributed to the increased output of recent months, with the Leesville Field being outstanding.

Stocks of refinable crude oil continued to increase, totaling 355,883,000 bbls. on May 31, compared with 354,350,000 bbls. on May 1. The largest increase in crude stocks in May occurred in Oklahoma.

Refined products: The percentage yield of gasoline showed a slight increase but less motor fuel was made outside of refineries, hence the daily average output of motor fuel in May (1,163,000 bbls.) was practically the same as in April. The total demand for motor fuel in May was 40,048,000 bbls., of which 1,907,000 bbls. represented exports and 38,141,000 bbls. was domestic demand. The latter, which represents the approximate movement of gasoline from refineries to terminals rather than actual consumption, was substantially higher than May a year ago. Stocks of motor fuel declined materially, totaling 61,628,000 bbls. May 30, compared with 65,648,000 bbls. on hand May 1.

The outstanding change in the statistics of the minor products in May was a material increase in the demand for road oil.

According to the Bureau of Labor Statistics, the price index for petroleum products during May, 1934, was 50.7, compared with 49.4 in April and 31.2 in May, 1933.

The refinery data of this report were compiled from refineries with an aggregate daily recorded crude-oil capacity of 3,516,000 bbls. These refineries operated during May at 70 per cent of their capacity, given above, which compares with a ratio of 71 per cent in April.

GEOPHYSICAL SURVEYS

Seismograph surveys under the direction of John H. Wilson, formerly with the Midwest Refining Co. and at one time assistant professor of geophysics at the Colorado School of Mines, are being conducted in the Rocky Mountain area. Colorado Geophysical Corp. has opened offices in the Midland Savings Building at Denver, Colo., with Keating Ransone, formerly secretary and office manager of Geophysical Service, Inc., Dallas, Tex., as office manager of the Colorado company.

Oklahoma City Wells Nearing Cleanout Stage

(Continued from Page 14)

Arco process patents owned by the Air Cleaning & Reaming Co. of Tulsa were best suited to conditions there and the Air Cleaning & Reaming Co. recently granted an exclusive license for the business of contracting the clean-out of wells in the Oklahoma City Field to the Southern States Co. of Dallas, Tex.

The Southern States Co., under H. C. Otis, its president, is well known through its process of tubing wells under pressure. The Otis method of handling tubing in connection with the Arco process is available at wells where formation pressures are still high enough to present a hazard if the well is not under control at all times, but this method is not necessary at low pressure wells.

High pressure gas is introduced into the well through a special jet-bit attached to the bottom of the tubing string. The gas mixes with the settlings and the fluid found in the hole and the mixture is flowed to the well head in the annular space between tubing and casing and discharged into the oil and gas separators.

This process has the advantage of permitting the oil and gas released as the cleanout work progresses to be handled in the way any production would be taken care of, that is, the gas goes to the natural gasoline plants and the oil to lease stock tanks. So the well being cleaned is really on production during the work.

As the cavings flow out the tubing is lowered and this work is made easier and safer by employing the Otis tubing method when high pressure wells require such precautions which assures that the well will be under control at all times.

It is reported that over 200 feet of cavings have been removed from wells by this method and all holes cleaned to the bottom and this is now one of the necessary details of cleanout work in these wells for it is essential that the string of tubing be set as close to the bottom of the well as possible to insure maximum production.

The usual hookup for this method of cleaning will be a weight indicator to which casing line is attached, high pressure hose from surface line to swivel on tubing, standpipe for gas release to atmosphere if for any reason it does not escape freely at the bottom of the tubing, oil saver, blowout preventer, master gate float collars in tubing to prevent well from blowing out through the tubing if high pressure formation gas is encountered while cleanout work is in progress, bit with jet and connections to the oil and gas separators.

Equipment for Other Work

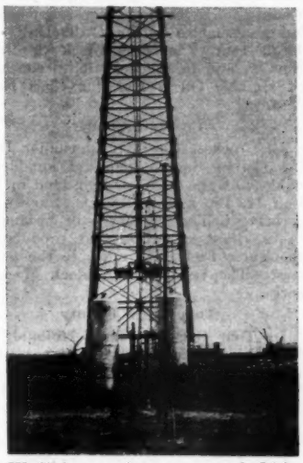
After a well has been cleaned and tubed the work of the production man is by no means finished. It has been found that cavings and sand enter the tubing along with the fluid and it is surprising how little sand above the standing valve on a pumping well will plug the valve. It is not unusual to pull 6,500 feet of tubing and find that less than 12 inches of sand is above the standing valve but this small amount was enough to shut off production.

It is necessary at some wells to steam the tubing to remove paraffin that has accumulated on the inside. One way to do this is to set the stand of 2½ or 3-inch diameter tubing as pulled out of the well down over an upturned nipple about 1½-inch diameter that is attached to a steam line and the nipple wrapped so the steam will escape upward inside of the tubing when the gate on the line is opened. This forces the steam up through the tubing before it is racked. The steam can be seen escaping from the upper end of the stand about the height of the fourble board and by experience the crew knows when to shut it off.

Butane in liquid form is available from many of the casinghead natural gasoline plants in Oklahoma City, and elsewhere, and as this liquor is an excellent solvent for paraffin deposited on tubing, casing or the face of the sand it is being used to some extent in the Oklahoma City wells as a paraffin solvent.

It is introduced with the compressed gas used for air lift and as most of the paraffin trouble in tubing is experienced in wells on gas lift this use of butane liquid seems to help materially in keeping the tubing clean. As liquid butane or propane is a by-product of the natural gasoline plants it is possible a portion of it might be utilized to advantage to gasoline producers and owners of sand wells as a solvent for paraffin in many fields.

Pulling rods and tubing is now largely done with winches mounted upon trucks.



Well in southeast part of Oklahoma City pumped by pneumatic cylinder lift

This type pulling equipment also permits the suction type bailer to be run into the hole or the sand pump used.

For jobs that require more than pulling and bailing light portable cable tool outfits are used and several makes of these units are in use in the Oklahoma City Field. In general they consist of steam boiler and engine with the engine set upon skids on the derrick floor in a position near the samson post. By chain drive from engine to a sprocket on the crankshaft motion is imparted to the walking beam. Clutch is provided so that a chain driven sand reel can be operated as needed from the crankshaft, or bull ropes running over tugs mounted on the shaft will drive the bull wheels for hoisting tools.

Some of the outfits are all mounted upon skids and are moved as a complete unit except the boiler, but other units are semiportable and have to be assembled at the well. The belt driving the band wheel is the most notable thing that is missing on this type unit and the chain and sprockets have been substituted.

The cleanout work varies with different wells in the same formation and also with the wells in the various formations still producing oil. But in general it is very necessary to clean out to the very bottom of the drilled hole and it is reported that from 8 to 400 cubic feet of detritus material has been removed from wells. When the work is started it is never known how long it will take to complete but it has been found that using proper methods the bottom of the holes can be cleaned quite thoroughly although the cost of this work will vary from $500 to as high as $2,500 per well. There are probably 50 crews at work in the Oklahoma City Field at this time cleaning and repairing wells.

Some wells are shot after cleaning. Some wells are plugged in lower formations and then shot in the casing to secure gas from upper formations. The gun perforator has been used in many wells in this field with much success. Lead wool is used in packing off in some instances but the usual cement plug is most commonly employed.

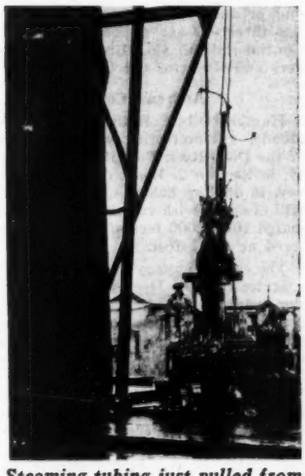
Producing Equipment

While the majority of the wells are now produced by gas lift in this field some of the producing zones will no longer support the ejector column and have therefore been placed on beam pumping or some other method of securing the oil. Hughes plunger lift is successfully producing oil in a number of wells and the Sullivan pneumatic cylinder pumping outfit is at five wells with more being equipped.

The Reda submerged electrical pump is being used in a number of wells with relatively high fluid levels. It is handling large volumes of fluid quite successfully.

Special stage lift devices are being used in some I.T.I.O. Co. wells with good results and as this system is developed more of these units will be employed. The general idea back of the device to so arrange a bottom hole flow piece that for part time low pressure injected gas will lift the oil from the bottom of the hole and deliver it into the annual space outside of the tubing and above packers and later eject this fluid by a flow of high pressure gas escaping from ports located near the bottom of the hole and opening into the annular space filled with fluid. The device is working quite satisfactorily so far delivering about 300 bbls. per day on one well and less than 50 bbls. daily on another.

While many methods of securing oil



Steaming tubing just pulled from an Oklahoma City well. Note the flow of oil from the upper end of the tubing extending above derrick floor. Tubing is pulled wet because standing valve is closed by sand

are now being tried in this field it appears that ultimately the lease production will be secured from the fewest possible number of wells and these wells provided with beam pumping units. What form these units may take will depend upon local conditions and engineers' choice and the pneumatic cylinder is classified as a means of pumping with rods the same as with beams or other apparatus.

The wells are tubed with 2½ or 3-inch tubing and long stroke working barrels attached to the lower end of the string. The bore of these working barrels is from 1¼ to 1¾ inches in diameter and the stroke of the pump from 5 to 10 feet with the rate of stroke varying from 10 to 25 reversals per minute. For example with 64-inch stroke the rate is from 18 to 22 s.p.m. with a maximum of 26 s.p.m.

The upper string of rods, approximately 2,700 feet long, are usually seven-eights inch diameter with the balance of the string three-quarter inch size. The working barrel is placed as close to the bottom of the well as possible.

Liners are coming into common use in the Oklahoma City wells and are installed with adapters or packers immediately the hole is cleaned out and made ready for putting on mechanical production. At present many of the liners are being made in company machine shops using portable electric driven milling cutters that cut slots one-eighth inch wide by about 2½ inches long. These slots average about 10 to each foot of pipe when all four rows of slots are counted.

After the liners are set sand will come into the inside of the pipe for a time but gradually the larger cavings will effectively close the outside slots to the entrace of fine sand and has the same effect as a gravel pack placed outside of the liner. The liners have not sanded up to any appreciable degree so far and they reduce pulling time due to sand packing on top of standing valves.

Future Possibilities

The wells in this field will continue to yield oil by air lift in some zones for a year to a year and one-half longer. The percentage of salt water produced in the Wilcox zone will probably increase because edge wells recently completed in this zone have drilled into salt water proving that this water movement has practically flooded this sand in some of the undrilled area and is moving updip steadily.

It is difficult to understand why additional wells should be drilled in zones already having a well density of one well to 3.73 acres or less except that promoters and drilling contractors are getting their money out of the financing of the deal rather than expecting to secure it from oil produced in the future. The persons and banks who have bought these oil "futures" at greatly reduced prices may be able to get their money back because their discount has been excessively large, but on the whole drilling wells on small pieces of land is not being indulged in by companies who are really seeking oil.

Future oil from the lower Simpson zone will all be secured by some mechanical means and it will cost more and more each year because of decreasing quantity and more frequent cleanout work and pulling of tubing for one reason or another. This cost will determine the number of wells operated on the lease. Many different plans of operation will be put into effect as the changing conditions develop and it is very difficult to predict how any one lease will be operated six months hence. But it is safe to assume that production costs will be higher, with volume of oil available less.

Better Feeling in the Eastern Oil Market

(Continued from Page 23)

shipment are quoted over wide ranges applying both to the Pennsylvania and Mid-Continent stocks. However, most of the larger manufacturers have not reduced their spot quotations. Steam refined stocks reflect the weakness in the more expensive bright stocks.

In the special oils the demand for industrial oils is not as active as it was earlier in the year and this development also has tended to reduce the demand for the neutrals and stocks used for blending. Over the past week no general price changes were reported at refineries in quotations on steam refined stocks, bright stocks and neutral oils.

Wax manufacturers are expecting an improvement in demand within the next 60 days. The larger manufacturers have not changed their quotations on the refined grades. Crude scale prices range up from 3⅛ cents with domestic demand slow.

TANK CAR SERVICE CODE

The National Recovery Administration, through Division Administrator C. E. Adams today announced the recognition of the following as members of the code authority for the tank car service industry:

Col. N. L. Howard, North American Car Corp.; B. C. Graves, Union Tank Car Co.; F. Baird-Smith, Service Tank Car Co.; Henry Almer, American Steel Car Lines; W. J. Curley, Pennsylvania-Conley Tank Car Co.; R. H. Davenport, Shippers Car Line Corp.; L. J. Drake, president pro tem of Tank Car Service Association, and Lester N. Selig, General American Tank Car Corp.

J. E. O'Brien of Chicago was appointed an administrative member of the code authority.

Ordovician Test in Southeastern Reagan County; Completions in Wichita Falls Area Increase

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., July 9.—The most important development in the West Texas district during the week was the announcement by Skelly Oil Co. and others of an Ordovician test in the southeastern part of Reagan County. It is to be drilled in the old Skelly Pool, which is producing from the lime at around 3,100 to 3,200 feet. The location is in Section 33, Block 8, on Texas University land. The test will be carried to 8,700 feet if necessary. Contract has been let to the Olson Drilling Co. of McCamey, and drilling operations will be in charge of the Skelly Oil Co. Other companies having an interest in the test include the Utah Southern Oil Co., Humble Oil & Refining Co. and the California Co.

The test will be only 6 miles southeast of the Big Lake Pool, the only pool in the district producing from the Ordovician, and the same distance northwest of the Powell Pool in Crockett County. This is the fifth location for an Ordovician test in the district and the second within two weeks, the other test being made by the Humble Oil & Refining Co. last week in Schleicher County, on the Ike Honig ranch, in Section 38, Block M, G.H.&S.A. Survey.

Three other Ordovician tests are active in Schleicher, Howard and Upton Counties. The deepest is Gulf Production Co.'s No. 103 McElroy, in Upton County, which is coring at 10,610 feet. It is in Section 197, Block F, C.C.S.D.&R.G.N.G. Survey. John M. Cooper's No. 1 Bert Page, in Schleicher County, was shot during the week, and for a while the gas volume was increased from 4,818,000 to 6,154,000 feet after the shot, but soon declined to its former level, and the light spray of oil which accompanied the gas was exhausted. It is to be carried to 6,500 feet to test the Ordovician. Further drilling will determine whether it is in the Strawn or basal Pennsylvanian which overlies the Ordovician in the Big Lake Pool in Reagan County. It is 9½ miles southeast of El Dorado in Section 40, Block L, G.H.&S.A. Survey. The total depth has been corrected by steel line measurements from 5,568 to 5,591 feet.

In the northwest central part of Glasscock County, John I. Moore and others' No. 1 McDowell, in Section 22, Block 34, Township 2s, T.&P. Survey, encountered more water from 2,682-2,710 feet in drilling to 2,823 feet and is straightreaming to reset casing.

Ector County

In the northwestern part of Ector County, C. J. Davidson and others' No. 1 Cummins discovery well is preparing to shoot after drilling to 4,509 feet in lime. No increase in oil or gas was encountered in drilling to that depth. Using top of the brown lime at 3,825 feet it has penetrated the lime formation 684 feet, which is about the maximum depth for a test in the northern part of the county without encountering sulphur water. Best pay was logged from 4,295 to 4,302 feet with an increase from 4,326 to 4,333 feet. It is standing with the hole full of oil and if no results are obtained from shooting, acid will probably be used. It is expected to make a nice well.

Five miles southeast, Landreth Production Co.'s No. 1 Scharbauer, in Section 20, Block 33, Township 1n, T.&P. Survey, is drilling at 3,245 feet in anhydrite. This is the most important test now drilling in the county. From present indications it is reported to be running high, and many are of opinion it is located on an entirely different fold than the Davidson well to the northwest, and its chances of opening another pool for the county are considered favorable.

In the same county, York-Harper and others' No. 1 Bates, 1½ miles south of Broderick and Calvert's No. 1 E. F. Cowden's discovery well, in Section 38, Block 44, Township 2s, T.&P. Survey, encountered its first showing of oil at 3,977 feet in gray lime topped at 3,927 feet. It is shut down at 3,985 feet to run and cement 6⅝-inch casing. The showing of oil at 3,977 feet is reported to be 20 feet lower than the discovery well. The main pay should be picked up at around 4,165 to 4,170 feet, providing the sections are normal with the discovery well. If the test makes a producer it will be the second producer in the area and will call for three offsets to be drilled by the Continental Oil Co., Broderick and Calvert and Superior Oil Co.

Andrews County

Humble Oil & Refining Co.'s No. 1 Means, an interesting wildcat northeast of the Deep Rock Pool in Andrews County, in Section 2, Block A-35, P.S.L. Survey, is drilling below 4,095 feet in lime, still credited with running high. An estimated 10,000,000 feet of gas was encountered at 2,957 feet.

The same company's No. 1 Kuykendall, southwest of the Deep Rock Pool, in the same county, was cleaning out after being treated with acid. It swabbed 57 bbls. of oil in 12 hours, but part of this included the oil load. In the Ford area, 5 miles south, Fuhrman Petroleum Corp.'s No. 1-B Bonner was shut in after it had recovered jars. It has been flowing around 400 bbls. of oil per day while fishing. The best pay was topped from 4,242-4,467 feet. This is the best producer to be completed in the area, and it is expected to cause considerable drilling before the end of the year. Honolulu Oil Co. and Llano Oil Co. have spudded No. 1 Parker in Section 7, Block A-44, P.S.L. Survey, and are drilling below 800 feet. It is about 5 miles northeast of the Ford area and about the same distance from the Deep Rock area.

A location will probably be announced within the near future for a test 3 miles east of the town of Andrews, in Andrews County, on a block of acreage which is being assembled by Dr. G. T. Hall. The block centers around Block 3, P.S.L. Survey, and is about 12 miles southeast of Humble Oil & Refining Co.'s No. 1 Means.

Crockett County

In Crockett County, Eppenauer Drilling Co. of San Angelo has spudded a wildcat on the J. W. Owens land in Section 12, Block GG, T.&N.O. Survey. It is being drilled in search of production in the lime formation that produces in the Yates Field, 6½ miles to the northwest. The test is on a block of 4,000 acres.

Tom Green County

In Tom Green County, Holland and Maverick of San Angelo have assembled a block of 12,000 acres south of the town of Cristoval and will probably drill a test in the near future.

RANGER AND WICHITA FALLS

Completions in the Wichita Falls district increased considerably over the past few weeks, while locations held to 32, the district still partially shut down for lack of water. There were 61 tests reported completed, 23 dry holes. Thirty-nine of the completed tests were in Archer County, the most active area; only 14 were reported dry or locations abandoned. The activity in this county has been caused by several lime producing areas being opened during the past few months, the lime responding to acid treatment and the wells proving exceptionally good producers in most cases after application. The Falls County School Lands is one of the most active areas, the largest wells having been developed in this immediate area.

Three wells were completed in the Waggoner pasture in Wilbarger County. All three produced from different sands, one from an 1,873-95-foot level, another from 2,111 feet, and the third from sand logged at 2,357-74 feet. Companies and operators have been forced to drill more wells in this area during the past few months, while other operators and companies have been cleaning out and working over wells in an effort to bring them back to production or increase it.

Petroleum Producers Co.'s No. 1 Andress, in the J. Clark Survey, Cooke County, has been completed as one of the best wells yet opened in the county. It came in for an initial production of 500 bbls. producing from sand logged at 1,340-44 feet, the latter being the total depth. It is 3 miles north of Muenster.

Deep Oil Development Co. is completing its No. 2 Munger, in Section 30, W.V.F.L. Subdivision, in the old K.M.A. Pool, north of Kemp City, southern Wichita County. It logged saturated lime from 3,864-99 feet and drilled to 4,001 feet before plugging back to 3,900 feet to shoot the pay horizon with 50 quarts. It is now being placed on the pump and its daily capacity has not yet been estimated. This company discovered the deeper pay horizon in this area, but few tests have been drilled in quest of it, several proving dry.

Production in the Wichita Falls district averaged 60,775 bbls. per day during the week, about the same as the previous week.

Ungren and Frazier and others, of Abilene, have purchased leases on all of Section 5, the E half of Section 6 and N half of Section 32 in Block 15, T.&P. Survey, Jones County, acreage which lies 1 mile south of the Higgs Pool, which is producing from sand found at 1,600 and 1,800 feet. A 2,250-foot test will be drilled on the acreage by the lessors. Roeser & Pendleton, Inc., of Fort Worth, formerly drilled in a 2,000,000-foot gasser on the Evans farm at 2,185 feet, but the gas was soon exhausted. The operators just entering the area expect to pick up oil sand near where this test found the gas.

PANHANDLE DISTRICT

Christie and Hickman completed another big well in western Wheeler County this week, offsetting a former big well drilled by Smith Brothers and located on D'Spain land in Section 52, Block 24, H.&G.N. Survey. The new producer made 2,800 bbls. on a five-day commission test, but first came in making 265 bbls. per hour producing from granite wash logged at 2,315-2,477 feet. At 2,455 feet the well showed 24,000,000 feet of gas with the oil, the best oil pay being logged at 2,460-2,477 feet. This well outdoes the Smith Brothers well on the Harlan ranch, a south offset that proved good for nearly 1,600 bbls. per day on a five-day proration test in May.

Phillips Petroleum Co. set and cemented 13⅜-inch casing at 3,305 feet in its deep test in Moore County, Halliburton Oil Well Cementing Co. doing a multi-stage cementing job. Twelve hundred and fifty sacks of cement were used. Total depth is 3,314 feet and soon as the cement sets drilling will be resumed.

There were nine locations staked in the district during the week, Wheeler and Hutchinson Counties each having three, while Gray had two and Carson one.

Production in the district averaged 63,140 bbls. per day during the week or 6,340 bbls. per day over the allowable. The taking of tests on several large flush producers brought up the daily average.

The potential of the field is now 208,970 bbls. from 1,949 wells. There were 909 marginal wells in the district making 28,200 bbls. per day of marginal oil.

Wildcat Operations in West Texas

Week Ending July 9

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks:
Fuhrman Pet. Co.'s No. 1-B Bonner, 1,320 ft. from N line and 1,320 ft. from E line of Sec. 25, Blk. A-43, P.S.L. Sur.	T.D. 4,493 ft.; shut in.
Honolulu and Llano Oil Co.'s No. 1 J. E. Parker, 1,320 ft. from S line and 1,470 ft. from W line of Sec. 7, Blk. A-44, P.S.L. Sur.	Drlg. 800 ft.
Humble Oil & Ref. Co.'s No. 1 B. S. Walker, 660 ft. from E line and 660 ft. from S line of Sec. 6, Blk. A-43, P.S.L. Sur.	Location.
Humble Oil & Ref. Co.'s No. 1 R. M. Means, 660 ft. from N and 660 ft. from E of Sec. 2, Blk. 3-35, P.S.L. Sur.	Drlg. 4,095 ft.
Humble Oil & Ref. Co.'s No. 1 Kuykendall, 1,980 ft. from S and E lines of Sec. 34, Blk. A-44, P.S.L. Sur.	Treated wi h acid; no result; pumped 57 bbls.

BORDEN COUNTY

Continental Oil Co.'s No. 1 Johnson, 660 ft. from S line and 660 ft. from E line of Sec. 34, Blk. 32, Twp. 4n, T.&P. Sur.	S.D. 750 ft. for repairs.

BREWSTER COUNTY

Joiner-McIntyre's No. 1, 853 ft. from S. 2,390 ft. from E of Sec. 31, Blk. 352, W. M. Mitchell Sur.	S.D. 1,725 ft.

COKE COUNTY

Wm. Hooper's No. 1 Gaston, 340 ft. from S line and 654 ft. from W line of Joseph Sur. No. 11	T.D. 2,550 ft.

CRANE COUNTY

Brandon et al's No. 1 J. Cowden, 330 ft. from N and 330 ft. from W line of Sec. 13, Blk. X, C.C.S.D.& R.G.N.G. Sur.	Drlg. 2,800 ft.
Gulf Prod. Co.'s No. 1 E. M. Snodgrass, 1,320 ft. from N and 1,320 ft. from W line of Sec. 1, Blk. B-25, P.S.L. Sur.	Drlg. 800 ft.
Wahlenmaier Petroleum Corp.'s No. 1 W. P. Edwards, 330 ft. from N and 330 ft. from E of SW cor. of the NE of Sec. 12, Blk. B-21, P.S.L. Sur.	Testing; T.D. 3,720 ft.

(Continued on Page 51)

COMPLETIONS IN WEST TEXAS

Loving County

California Co.'s No. 8 Reagan and Mc-

(Continued on Page 46)

First Discouraging Test in New Cherokee Area; Decline Shown in East Texas New Locations

By L. E. BREDBERG

DALLAS, Tex., July 9.—The test of the C. & G. Oil Co. and Magnolia Petroleum Co., a short distance southwest of the town of Rusk and approximately 7 miles northeast of the Rusk discovery of Wood and others in the Levi Jordan Survey, Cherokee County, is the first discouraging test drilled in the area. It is on the New Birmingham Development Co. land in the J. F. Timmons Survey, and will help to condemn the theory of a shoreline condition running to the northeast from the discovery, or that the Wood and others' well is on the southern end of a broad flat structure that runs to the north and northeast around the town of Rusk.

The test recovered 12 feet when cored from 4,998-5,012 feet, showing no oil or gas, but salt water. Top of the Woodbine is called at 4,995 feet or minus 4,502 feet.

The decrease in pressure, with salt water still coming in with the oil in the Wood and others' discovery on the New Birmingham Development Co.'s land in the Jordan Survey, approximately 6 miles southwest of Rusk, is also having its effect in slowing up interest in the area. When the well was changed from casing to tubing it had to be "rocked" to make it flow, and the working pressure on tubing has fallen to around 150 pounds. The gauge for the 24 hours ending at 7 a. m., July 7, was 400 bbls. of fluid of which 2 per cent was basic sediment and 4 per cent was salt water. This gauge was made on tubing and five-sixteenths inch choke.

The owners of the discovery well have made locations for two more offset tests on the 160 acres around the well. No. 2 test is 660 feet west and 330 feet south of the discovery, and No. 3 is 660 feet north and 330 feet east of No. 1. Location is being cleared for No. 2 test on which a heavier rotary is being moved. Operators and companies which own offset or nearby acreage will probably await the outcome of this test before they test their acreage.

There are three other wildcats drilling in the county, all of which will be closely watched although they are not in the Rusk discovery area. One is near Dialville, one near Reklaw and the other is approximately 10 miles east of the discovery well. Other tests are expected to be reported in the near future. Walter Goldston of Houston, and others are reported contemplating drilling a test a couple of miles south of the Rusk discovery.

Freestone County

Walter Burris, consulting geologist and independent operator of Tyler, has assembled a block of approximately 1,000 acres lying 1½ miles northeast of the town of Fairfield, Freestone County, in the Cayuga-Van trend, and has contracted to drill a Woodbine sand test. Location is on the J. B. H. Orand farm in the Jones Survey. Gholson and others are drilling about 5 miles northeast on the same trend, and farther to the northeast American Liberty Oil Co. is preparing to drill an interesting test west of the Cayuga Field, across the river in Freestone County. Rio Oil Co. of Fort Worth holds a large acreage around the Burris test near Fairfield, the area being shot with geophysical instruments, and Burris working both the surface and subsurface geology.

Long Lake Area

Hunt Production Co. of Tyler is planning to drill on a block of several hundred acres east of the Long Lake gas area in southwest Anderson County. Location is on the Miller-Temple farm in the Simon Sanches Survey. This will be the first test drilled in or near this area for several months, Tide Water Oil Co. and Texas Seaboard Oil Co. shutting down developments after getting a third gasser on the northeast side of the pool.

Another test is rumored for the Slocum area in southern Anderson County near where Byrd and Frost of Dallas abandoned a wildcat two months ago, the same operators to drill the second test, which is about 1 mile south of the first which encountered considerable gas with a small oil showing, the operators being unable to plug off the salt water.

Other parties are under contract to drill a test 8 miles west of Palestine in the Harmony area of Anderson County. Location is on the L. J. Huffman farm on a block of some 3,000 acres. J. A. Johnson and associates are scheduled to put down this wildcat.

Cayuga Field

Roeser & Pendleton, Inc.'s No. 1 Bowyer, in the E. Ritter Survey, 1½ miles northwest of the Cayuga discovery well, has been completed as a 6,000,000-foot gasser at a total depth of 4,081 feet. The gas sand was topped at 4,029 feet. This well extends and also limits the pool to the northwest, proving the first gasser in the area. It may be deepened later in an effort to pick up more oil saturated sand that was topped at 4,040 feet. Tide Water Oil Co. and Texas Seaboard Oil Co., joint owners of the large block surrounding their discovery, have made location on the Nannie Wills farm to the east and will carry the test to the salt water level to test this side of the block. However, drilling will be carried down slowly after the sand is topped in an effort to make an oil producer out of the test before going into the salty sand.

American Liberty Oil Co.'s test on the Trinity Farm Security Co. lands in the Bonham Survey, across the Trinity River from the Cayuga discovery, and about 4 miles distant, will be an interesting western outpost test. If it proves a producer, Trinity State Oil Co. may be expected to start drilling operations on its river bed leases, which it recently acquired from the State.

One other test was completed in the field this week, Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Robertson, in the S. Edmondson Survey on the east side of the field. Initial production was 95 bbls. in 10 hours through three-eighths inch choke on tubing. Sand was topped at 4,009 feet and total depth is 4,085 feet.

EAST TEXAS FIELD

Average bottom hole pressure in the East Texas Field as of July 8 was 1,242 pounds, whereas in January when the peak was reached it was 1,274 pounds. Several wells completed during the week were scheduled for pumping after failing to flow when drilled in. These wells, however, are located in the low pressure area on the eastern edge of the Joiner area in Rusk County and in the extreme northern part of the field where there are a few pumpers. Few pumpers are added from time to time, pressures holding up exceptionally well, and as long as the field is curtailed to around its present allowable there is no danger of the wells rapidly decreasing in pressure and necessitating pumping.

Locations and Completions

Locations fell to a new low this week, principally as a result of the stringent application of the new spacing rules which prohibits or curtails the granting of exceptions to drill. There were only 44 first reports registered this week, whereas they have been running around 100 each week. There were only 63 wells completed. There are now over 13,700 producers in the field, and from now on drilling is expected to be much slower, about half the volume, it has been for many months.

Runs Increase

Runs to refineries picked up. The reports for the week ending July 5 showed daily runs amounting to 67,685 bbls., whereas the previous week's report showed daily averages of 60,205 bbls. It looks as if the plants may be intending to take advantage of the plan whereby their refined products can be sold to the major units.

Stanolind Oil & Gas Co. has purchased two more good sized properties in the field. H. L. Hunt Production Co. sold a 111-acre lease in Rusk County, with 18 producing wells, and Devonian Oil Co. sold two leases containing 167 acres with 17 producing wells in Gregg County, and a half interest in an 83-acre lease with 8 wells in Rusk County.

New Potential Tests

The Railroad Commission has ordered new potential tests taken on all key wells in the field, to be completed on or before July 15. The tests will be the usual two-hour open flow tests, and the oil produced during the tests will be charged back against the allowable of the well during the coming month. Any operator desirous of having his well tested along with the key wells will have to equip his wells as per the commission's requirements. There is a complete set of rules to show the method of equipping wells for tests, and conditions under which the tests are made. A commission employe is supposed to supervise the testing of each well.

COMPLETIONS IN EAST TEXAS FIELD

(Cayuga Area) Anderson County

Roeser & Pendleton's No. 1 Virginia Bowyer, top Pecan Gap (broken) 1,975 feet, top hard Pecan Gap 2,070 feet, top Austin chalk 3,085 feet, base 3,437 feet, top gas sand 4,029 feet, top sand 4,040 feet, initial production 6,000,000 feet of gas, total depth 4,081 feet. Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 G. F. Robertson, top Pecan Gap 2,249 feet, base 2,435 feet, top Austin chalk 3,520 feet, base 3,705 feet, top Woodbine sand 3,892 feet, top sand 4,009 feet, initial production 95 bbls. in 10 hours through three-eighths inch tubing choke, total depth 4,085 feet.

North Gregg County

Ambrose's No. 9-A George Jones, top sand 3,592 feet, initial production 34 bbls. in one-quarter hour through open tubing, total depth 3,664 feet. Arkansas Fuel Oil Co.'s No. 24 Burnside, top sand

East Central Texas Wildcats

Week Ending July 9

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks
Barnsdall Oil Co.'s No. 1 Loper, 467 ft. from N and W lines of 40-ac. tract, 1 mile SW of Cayuga, James Wilson Sur.	Plugged back from 4,086 ft. to 2,300 ft.; drlg. out.; T.D. 4,086 ft.
Stanolind Oil & Gas Co.'s No. 1 Loper, 483 ft. S and 466 ft. E of NW cor. of 40-acre tract, James Wilson Sur.	Location.
Sun Oil Co.'s No. 1 Erskine, 200 ft. from S line of survey and 3,000 ft. from Trinity river, Samuel C. Box Sur., SW part of county	Drlg. 1,924 ft.
Texas Seaboard Oil Co.'s No. 3 Edens, 467 ft. from N and E lines of tract, Samuel Snyder Sur.	Drlg. 3,848 ft.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 J. A. Campbell, 1,260 ft. from N line and 440 ft. from W line of 243-ac. tract, James Wilson Sur.	Drlg. 3,107 ft.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Royal and Cone, 467 ft. from S line and 1,633 ft. from E line of 92-ac. tract, Thomas Bristow Sur.	Set surface csg. 611 ft.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 4 Edens, 2,871 ft. from N line and 467 ft. from E line of tract, Samuel Edmondson Sur.	Drlg. 3,848 ft.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Robertson, 633 ft. from W line and 407 ft. from N line of lease, Samuel Snider Sur.	Clearing location.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1-B Virginia Wills (Boyer), 467 ft. from S and E lines of lease, M. H. John Sur.	Set csg.; T.D. 4,075 ft.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1-C N. N. Wills, 477 ft. from S line and 467 feet from W line of tract, Thomas Bristow Sur.	Location.

CHEROKEE COUNTY

Jacksonville Oil & Gas Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-acre tract out of Tankersley 104-acre tract, 5 miles NE of Jacksonville on W side of railroad, J. Pineda Sur.	Moving in.
C. & G. Oil Co.'s No. 1 New Birmingham Development Co., 467 ft. from N and W of SW cor. of J. Gibb Sur., J. F. Timmons Sur.	Tested salt wtr.; will abandon.
Southern Gulf Oil Co.'s No. 1 Joe Bailey, center 164-acre tract, 4 miles NE of Ponta, L. R. Rhodes Sur., Abstract No. 724	Waiting on cmt. to set.
T. J. Wood et al's No. 1 New Birmingham, 660 ft. from S and E lines of 1,128-ac. tract, 7 miles SW of Rusk, Levi Jordan Sur.	Made 6,130 bbls. to date; T.D. 5,124 ft.
T. J. Wood et al's No. 2 New Birmingham Dev. Co., 660 ft. W and 330 ft. S of No. 1, Levi Jordan Sur.	Clearing location.
T. J. Wood et al's No. 3 New Birmingham Dev. Co., 660 ft. N and 330 ft. E of No. 1, Levi Jordan Sur.	Location.
Zilkey and McCulloch's No. 1 Bradford, 2,500 ft. from most southerly S line and 771 ft. from E line of survey, 4 miles E of Rusk, J. Armendaris Sur.	S.D. 3,840 ft.

(Continued on Page 50)

3,488 feet, initial production 118 bbls. per hour, total depth 3,514 feet; No. 10-A F. K. Lathrop, top sand 3,577 feet, initial production 160 bbls. per hour through open tubing, total depth 3,600 feet; No. 7 Rembert, top sand 3,455 feet, initial production 128 bbls. per hour through open tubing, total depth 3,474 feet. Bailey and Trimble's No. 3 Jones, top sand 3,582 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,607 feet. Barnsdall Oil Co.'s No. 12 Adams, top sand 3,604 feet, initial production 90 bbls. in 40 minutes through open tubing, total depth 3,668 feet. Cox and Hamon's No. 6 Ed Lacy, top sand 3,490 feet, initial production 85 bbls. in 45 minutes through open tubing, total depth 3,563 feet.

Deep Rock Oil Co.'s No. 9 B. Jones, top sand 3,542 feet, initial production 45 bbls. in one-quarter hour through open tubing, total depth 3,602 feet. Faith Oil Co.'s No. 16 J. C. Barrett, top sand 3,645 feet, initial production 40 bbls. per hour through open tubing, total depth 3,672 feet. General Crude Oil Co.'s No. 11 Rembert, top sand 3,504 feet, initial production 16 bbls. in one-quarter hour through open tubing, total depth 3,530 feet. Mercury and Rajo's No. 8 J. C. Barrett, top sand 3,670 feet, initial production 41 bbls. per hour through open tubing, total depth 3,710 feet. Mullendore and Berry's No. 3 Barnswell, top sand 3,490 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,512 feet.

E. L. Smith's No. 3 Harrison, top sand 3,535 feet, initial production 45 bbls. in 25 minutes through open tubing, total depth 3,570 feet. M. K. Towns' No. 2 J. J. Leick and others, top sand 3,678 feet, initial production 25 bbls. in one-half hour through open tubing, total depth 3,700 feet. Virginia Oil Co.'s No. 4-B T. B. Harris, top sand 3,524 feet, initial production 50 bbls. per hour through open tubing, total depth 3,537 feet. Yount Lee Oil Co.'s No. 5-A Castleberry, top sand 3,584 feet, initial production 30 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,624 feet; No. 9 J. Flemister, top sand 3,610 feet, initial production 45 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,630 feet.

South Gregg County

Gulf Production Co.'s No. 11 Birdsong, top sand 3,577 feet, initial production 60 bbls. per hour through open tubing, total depth 3,589 feet; No. 24 C. Brown, top sand 3,495 feet, initial production 67 bbls. per hour through open tubing, total depth 3,521 feet. Houston Oil Co.'s No. 4-A Hughey, top sand 3,499 feet, initial production 32 bbls. in 10 minutes through open tubing, total depth 3,543 feet. Illinois Oil Co.'s No. 1 Tom Bell, top sand 3,694 feet, initial production 15 bbls. in 20 minutes through eleven-sixteenths inch tubing choke, total depth 3,696 feet. Johnson and Owens' No. 5-C M. T. Cole, top sand 3,514 feet, initial production 110 bbls. in one-half hour through open tubing, total depth 3,534 feet.

A. Plummer's No. 5 Beall Estate, top sand 3,700 feet, initial production 70 bbls. per hour through open tubing, total depth 3,702 feet. M. C. Scheble's No. 6-U Sabine River, top sand 3,523 feet, initial production 75 bbls. per hour through open tubing, total depth 3,550 feet. Shell Petroleum Corp.'s No. 39 Elder, top sand 3,532 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,610 feet. Sinclair Prairie Oil Co.'s No. 14 Lawther, top sand 3,538 feet, initial production 33 bbls. in six hours' swabbing, total depth 3,585 feet; No. 15 Joe Lawther, dry and abandoned, total depth 3,597 feet. Sultana Oil Co.'s No. 6-L Sabine River, top sand 3,571 feet, initial production 179 bbls. in 1 hour and 20 minutes through 1-inch tubing choke, total depth 3,545 feet.

Sun Oil Co.'s No. 15 J. R. Beall, top sand 3,626 feet, initial production 60 bbls. per hour through 1½-inch tubing choke, total depth 3,641 feet; No. 8 J. S. Elder, top sand 3,531 feet, initial production 54 bbls. per hour through 1½-inch tubing choke, total depth 3,570 feet. Texas Co.'s No. 19 Elder, top sand 3,613 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,634 feet. Tide Water Oil Co.'s No. 10 T. Bell, top sand 3,688 feet, initial production 10 bbls. in 10 minutes through 1-inch tubing choke, total depth 3,693 feet.

North Rusk County

J. Berren's No. 5-A Holt, top sand 3,640 feet, initial production 20 bbls. in one-quarter hour through open tubing, total depth 3,696 feet. Humble Oil & Refining Co.'s No. 113 L. D. Crim, top sand 3,637 feet, initial production 90 bbls. per hour through open tubing, total depth 3,651 feet; No. 53-B S. S. Laird, top sand 3,573 feet, initial production 84 bbls. per hour through open tubing, total depth 3,643 feet; No. 56-B S. S. Laird, top sand 3,569 feet, initial production 78 bbls. per hour through open tubing, total depth 3,631 feet; No. 21-B H. Sexton, top sand 3,619 feet, initial production 50 bbls. per hour through open tubing, total depth 3,702 feet.

South Rusk County

Ortiz Oil Co.'s No. 1 Bradford, top sand 3,565 feet, initial production 50 bbls. per hour through open tubing, total depth 3,669 feet. Arkansas Fuel Oil Co.'s No. 9 Wheelis, top sand 3,686 feet, initial production 65 bbls. per hour through open tubing, total depth 3,711 feet. Dearing & Son's No. 3 McDonald, top sand 3,684 feet, initial production 35 bbls. per hour by heads, total depth 3,733 feet. Gulf Production Co.'s No. 8 W. A. Maxwell, top sand 3,704 feet, initial production 77 bbls. per hour through three-quarters inch tubing choke, total depth 3,712 feet. Humble Oil & Refining Co.'s No. 7 E. W. Naulls, top sand 3,577 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,582 feet; No. 13-A J. H. Silvey, top sand 3,672 feet, initial production 90 bbls. per hour through 2-inch tubing choke, total depth 3,693 feet.

Hunt Production Co.'s No. 4-A Camp, top sand 3,535 feet, initial production 20 bbls. in 73 minutes pumping, total depth 3,632 feet. Jenkins Oil Corp.'s No. 11 Jobe, top sand 3,607 feet, initial production 60 bbls. per hour through open tubing, total depth 3,674 feet. J. J. McRoberts' No. 3 M. L. Thompson, top sand 3,682 feet, initial production 80 bbls. per hour through open tubing, total depth 3,740 feet. Magnolia Petroleum Co.'s No. 8-A Perkins, top sand 3,626 feet, initial production 10 bbls. in 10 minutes through open tubing, total depth 3,676 feet; No. 2-B Ras Pool, top sand 3,696 feet, initial production 7 bbls. in one-quarter hour through open tubing, total depth 3,755 feet. Mid-Kansas Oil & Gas Co.'s No. 20 Grissom, top sand 3,680 feet, initial production 98 bbls. per hour through open tubing, total depth 3,685 feet. Octo Oil Co.'s No. 1 Bradford, top sand 3,610 feet, initial production 55 bbls. per hour through open tubing, total depth 3,727 feet. Perry-Wood-Boller's No. 6-A Thrash, top sand 3,610 feet, initial production 50 bbls. per hour through open tubing, total depth 3,693 feet. Tide Water Oil Co.'s No. 10 J. M. Shaw, top sand 3,680 feet, initial production 15 bbls. in one-quarter hour through open tubing, total depth 3,710 feet.

Smith County

Stanley Lewis' No. 2 Cook, top sand 3,762 feet, initial production 75 bbls. per hour through open tubing, total depth 3,765 feet. W. L. Sessions' No. 8 Stone, top sand 3,801 feet, initial production 40 bbls. in 43 minutes through open tubing, total depth 3,812 feet. Sun Oil Co.'s No. 7 O. W. Knight, top sand 3,628 feet, initial production 70 bbls. per hour through open tubing, total depth 3,635 feet.

Upshur County

Conservative Oil Co.'s No. 11 Victory, top sand 3,688 feet, initial production 13 bbls. in 10 minutes through open tubing, total depth 3,697 feet. Eastern Texas Petroleum Co.'s No. 2 Dunbar, top sand 3,636 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,645 feet. Eastern Texas Petroleum Co.'s No. 1 D. A. Fleet, top sand 3,616 feet, initial production 30 bbls. in 20 minutes through open tubing, total depth 3,625 feet. Kleiner-Warren and Astur's No. 5 O. F. Smith, top sand 3,641 feet, initial production 130 bbls. per hour through open tubing, total depth 3,662 feet. Peckham Oil Co.'s No. 2 Hamilton, top sand 3,684 feet, initial production 30 bbls. per day pumping, total depth 3,695 feet. Stroube and Stroube's No. 17 R. J. Mackey, top sand 3,640 feet, initial production 40 bbls. in two hours swabbing, total depth 3,650 feet. Sun Oil Co.'s No. 16 Hargraves, top sand 3,696 feet, initial production 39 bbls. per hour through open tubing, total depth 3,699 feet. Texas Oil Production Co.'s No. 3 W. E. Smith, top sand 3,719 feet, initial production 20 bbls. with air compressor and flow valves, total depth 3,727 feet.

Van Zandt County

W. E. McKinney and others' No. 2 B. T. Davis, initial production 1 bbl. per day pumping, total depth 1,166 feet.

Van Field

Shell Petroleum Corp.'s No. 3 B. M. Fowler, initial production 68 bbls. first 24 hours after proration gauge, total depth 2,962 feet.

West Texas Fields

(Continued from Page 44)

Elvain, top pay 4,229-44 feet, initial production 150 bbls. in 24 hours, total depth 4,248 feet.

Pecos County

Cardinal Oil Co.'s No. 21-E Tippett, top pay 604-09 feet, initial production 275 bbls. in 24 hours pumping, total depth 609 feet.

Upton County

Texas Pacific Coal & Oil Co.'s No. 2-A Reece, top pay 2,566-2,619 feet, initial production 91 bbls. in 24 hours, total depth 2,619 feet.

Ward County

California Co.'s No. 3 Durgin, top pay 2,476-2,539 feet, initial production 330 bbls. in 24 hours, total depth 2,539 feet. Gulf Production Co.'s No. 29 Hutchins, top pay 2,555-2,757 feet, initial production 849 bbls., total depth 2,757 feet. Humble Oil & Refining Co.'s No. 3 Reichter, top pay 2,550 feet, initial production 7 bbls. in 24 hours, total depth 2,550 feet.

Winkler County

Sid Richardson's No. 1 Shell-Llano-Scarborough, top pay 2,831-3,335 feet, initial production 70 bbls. in 24 hours, total depth 3,335 feet.

COMPLETIONS IN NORTH TEXAS

Archer County

Bridwell Oil Co.'s No. 8-E Falls County, lime 1,107-16 feet, initial production 8 bbls. swabbing per hour, total depth 1,116 feet. L. T. Burns' No. 6 Perkins, dry and abandoned, total depth 1,635 feet. Cato Oil Co.'s No. 1 Andrews, temporarily abandoned. E. B. Clark's No. 2 Justice, lime 1,074-82 feet, initial production 16 bbls., total depth 1,083 feet. Shirley Clum's No. 1 Laseter, dry and abandoned, total depth 1,210 feet. Continental Oil Co.'s No. 1 Andrews, dry and abandoned, total depth 1,080 feet; No. 5-B Falls County, lime 1,100-18 feet, initial production 30 bbls. flowing per hour, total depth 1,118 feet. James N. Crofton's No. 2 Logan, lime 1,142-61 feet, initial production 100 bbls., total depth 1,161 feet; No. 3 Logan, dry and abandoned, total depth 1,192 feet.

Cullum and Sinclair Prairie Oil Co.'s No. 9 Falls-Scranton, top lime 1,095-1,113 feet, initial production 12 bbls. per hour, total depth 1,113 feet; No. 10 Falls-Scranton, lime 1,096-1,113 feet, initial production 20 bbls. per hour, total depth 1,113 feet; No. 11 Falls-Scranton, dry and abandoned, total depth 1,139 feet. D. L. Edmeston's No. 1 Lauster, dry and abandoned, total depth 1,379 feet. Fain & McGaha's No. 12 Arnold, lime 1,181-93 feet, initial production 40 bbls., total depth 1,193 feet; No. 14 Arnold, lime 1,158-61 feet, initial production 188 bbls., total depth 1,161 feet; No. 15 Arnold, lime 1,158-72 feet, initial production 200 bbls., total depth 1,172 feet; No. 12 Green, lime 1,153-70 feet, initial production 165 bbls., total depth 1,170 feet. Frazier and King's No. 1 Conner, dry and abandoned, total depth 1,112 feet.

Gray Drilling Co.'s No. 7 Ferguson, oil sand 652-57 feet, initial production 40 bbls., total depth 657 feet. Kittery Oil Co.'s No. 3 Carr, lime 1,385-97 feet, initial production 370 bbls., total depth 1,397 feet. George L. Pace's No. 8 Abercrombie, lime 1,132-44 feet, initial production 50 bbls., total depth 1,144 feet; No. 9 Abercrombie, lime 1,135-48 feet, initial production 35 bbls., total depth 1,148 feet. Panhandle Refining Co.'s No. 7 Anderson, lime 1,409-27 feet, initial production 130 bbls., total depth 1,427 feet; No. 8 Anderson, lime 1,408-27 feet, initial production 75 bbls., total depth 1,487 feet; No. 9 Anderson, lime 1,391-1,407 feet, initial production 190 bbls., total depth 1,407 feet. Peckham and Medders' No. 1 Justice, lime 1,091-1,104 feet, initial production 125 bbls., total depth 1,104 feet. George L. Pace's No. 4 Abercrombie, temporarily abandoned. Peckham and Medders' No. 2 Justice, lime 1,092-1,108 feet, initial production 75 bbls., total depth 1,108 feet.

Perkins and Cullum's No. 10-B Falls County, lime 1,107-21 feet, initial production 225 bbls., total depth 1,121 feet; No. 22 Falls-Titken, lime 1,141-63 feet, initial production 200 bbls., total depth 1,163 feet. Sinclair Prairie Oil Co.'s No. 1 Clark and Richardson, dry and abandoned, total depth 2,026 feet. Staniforth and Ray's No. 10 Wilson, oil sand 1,607-12 feet, initial production 200 bbls., total depth 1,612 feet. Texas Plains Oil Co.'s No. 1 Rayborn, dry and abandoned, total depth 1,790 feet. Tex-Ho Oil Co.'s No. 3 Anderson, lime 1,417-28 feet, temporarily abandoned; No. 7 Anderson.

GULF COAST WATER SHIPMENTS FOR MONTH OF MAY, 1934

Company and terminal—	Crude—Coastwise	Crude—Export	Refined—Coastwise	Refined—Export	Total
Atlantic Pipe Line Co.:					
Atreco	1,584,968.93	367,074.94	17,490.26	.....	1,969,534.13
Texas City	278,638.19	.....	6,715.60	.....	285,353.79
Harbor Island	375,961.43	.....	.....	.....	375,961.43
Gulf Refining Co.:					
Port Arthur	266,613.54	.....	2,078,984.26	.....	2,345,597.80
Humble Oil & Ref. Co.:					
Baytown	1,278,588.00	.....	1,536,537.73	697,981.00	3,513,106.73
Harbor Island	1,761,572.00	.....	.....	.....	1,761,572.00
Ingleside	66,555.00	.....	.....	.....	66,555.00
Texas City	358,388.00	.....	.....	.....	358,388.00
Neches	76,984.00	.....	.....	.....	76,984.00
Magnolia Petroleum Co.:					
Beaumont	814,994.70	.....	1,888,509.82	.....	2,703,504.52
Pure Oil Co.:					
Smith Bluff	404,174.00	.....	659,778.00	.....	1,063,952.00
Shell Petroleum Corp.:					
Houston	265,756.76	370,904.05	1,126,873.05	115,752.62	1,873,286.48
Norco	.....	.....	277,697.38	50,841.38	328,538.76
Standard Oil Co. (La.):					
Baton Rouge	198,264.00	.....	990,778.00	362,586.00	1,551,628.00
Sun Pipe Line Co.:					
Sabine Pass and Sun	1,535,965.00	.....	.....	.....	1,535,965.00
Texas Co.:					
Port Arthur	1,410,947.00	896,535.00	2,009,192.00	560,092.00	4,876,766.00
Miscellaneous:					
Houston	857,615.24	79,701.95	771,446.22	804,910.61	2,513,674.02
Total May	11,535,985.79	1,714,215.94	11,358,002.32	2,592,163.61	27,200,367.66
Total April	12,117,720.35	941,303.36	12,056,219.89	2,496,943.00	27,612,186.60
Difference	581,734.56	772,912.58	698,217.57	95,220.61	411,818.94

POPULAR

Developed in the heart of the oil fields by practical men with the aid of technical engineers, Bridgeport Rotary Hose has been gaining new friends and new users since it first was offered to the trade several years ago.

In some of the most difficult fields more Bridgeport Rotary Hose has been used than all other makes combined.

A single trial will convince the most skeptical—give it an opportunity to tell its own story of economy and satisfaction.

"SUPER-BRIDGEPORT" for the most difficult work—"BRIDGEPORT" for ordinary work.

Where To Buy It

If you are not near a Bridgeport store, simply pick up a telephone and tell the operator:

"Call Bridgeport—Station to Station—Collect"

At Wichita, Kansas or any of the points named below.

(Telephone Number not required on Long Distance calls)

HOUSTON, TEXAS Ph: C-1301 or LD-203	DALLAS, TEXAS Ph: 3-1225	KILGORE, TEXAS Ph: 52
PAMPA, TEXAS Ph: 884	OKLAHOMA CITY, OKLA. Ph: 7-2725	TULSA, OKLA. Ph: 4-8580 or 6-2609
McPHERSON, KANSAS Ph: 113	WICHITA, KANSAS Ph: 2-1431 or LD-59	RUSSELL, KANS. Ph: 434

Or any other Bridgeport store, representative or sales office.

BRIDGEPORT

MACHINE COMPANY

MANUFACTURERS DISTRIBUTORS

OIL DRILLING-FISHING AND PRODUCTION EQUIPMENT

GENERAL OFFICE AND WORKS: WICHITA, KANSAS

BRANCH STORES: ACTIVE MID-CONTINENT AND GULF COAST FIELDS

lime 1,413-29 feet, initial production 25 bbls. of oil and 10 bbls. of water, total depth 1,429 feet; No. 8 Anderson, location abandoned. Texas Co.'s No. 3 Logan, lime 1,150-60 feet, initial production 11 bbls., total depth 1,160 feet; No. 1-B Logan, dry and abandoned, total depth 1,356 feet. United Producers Co.'s No. 1 True, dry and abandoned, total depth 1,751 feet. Petroleum Producers Co.'s No. 3-E, dry and abandoned, total depth 1,384 feet.

Cooke County

Petroleum Producers Co.'s No. 1 Andrews, oil sand 1,340-44 feet, initial production 500 bbls., total depth 1,344 feet.

Jack County

W. J. Grisham's No. 1 Craig, dry and abandoned, total depth 397 feet. Kleiner and Hy and West's No. 1 Shown, lime 292-312 feet, initial production 12 bbls., total depth 312 feet. N. H. Martin and Son's No. 3 Bloodworth, dry and abandoned, total depth 335 feet. R. S. Luke's No. 1 Myers, dry and abandoned, total depth 350 feet. McKeown and Stone's No. 1 Shanafelt, abandoned location. D. L. Wolf's No. 1 Henderson, dry and abandoned, total depth 350 feet.

Montague County

O. V. Beck's No. 4 Davenport, oil sand 1,700-15 feet, initial production 30 bbls. per hour, total depth 1,715 feet. Benton and Holmes' No. 1-B Davenport, oil sand 1,691-1,714 feet, initial production 350 bbls., total depth 1,714 feet. Continental Oil Co.'s No. 2 Hott, oil sand 1,614-23 feet, initial production 96 bbls., total depth 1,623.

Wichita County

Humble Oil & Refining Co.'s No. 4 Wichita-Taylor, oil sand 1,756-64 feet, initial production 25 bbls., total depth 1,764 feet. Petroleum Producers Co.'s No. 36 Allen and Kemp, dry and abandoned, total depth 1,666 feet; No. 38 Allen and Kemp, oil sand 1,480-88 feet, initial production 15 bbls., total depth 1,488 feet.

Wilbarger County

Consolidated Oil Co.'s No. 3-T W. T. Waggoner, oil sand 1,873-95 feet, initial production 250 bbls., total depth 1,895 feet. Golding and Cochran's No. 9-C W. T. Waggoner, initial production 10 bbls. of oil and 17 bbls. of water, total depth 2,111 feet. Texas Co.'s No. 10-D W. T. Waggoner, oil sand 2,357 feet, initial production 40 bbls., total depth 2,374 feet.

Young County

Beavers-White and Duncan's No. 6 Remington-Belnap, lime 571-75 feet, dry and abandoned, total depth 575 feet. Brazelton Brothers' No. 2 Ward, lime 592-602 feet, initial production 120 bbls., total depth 602 feet. Nash and Windfohr's No. 11 Graham-Vick, dry and abandoned, total depth 2,790 feet. T. G. Shaw's No. 8 Marshall, oil sand 884-96 feet, initial production 60 bbls., total depth 2,790 feet. T. G. Shaw's No. 8 Marshall, oil sand 884-96 feet, initial production 60 bbls., total depth 898 feet. Texas Co.'s No. 1 Clark, dry and abandoned, total depth 923 feet. Wooten and Reed's No. 1 Reed, oil sand 555-66 feet, initial production 10 bbls., total depth 566 feet.

Mid-Continent Runs Established at Conservative Level

(Continued from Page 16)

showed lower refinery crude runs than this year. The willingness of refiners to co-operate in a plan for mutual support of the refinery market has finally come to the front in reality and if continued throughout the present months of high gasoline consumption, there should be little reason to expect a serious break in the retail market, which in turn would invite an immediate cut in crude prices.

ARKANSAS

Company and location—	Daily capacity	Aver. daily runs— July	June
Berry Asphalt Co., Waterloo	2,000	500	500
Henry H. Cross Co., Smackover	6,000	3,500	3,000
Lion Oil Refining Co., El Dorado	12,000	6,000	6,000
Macmillan Petroleum Products Co., Norphlet	2,300	2,000	2,000
Ouachita Valley Refining Co., El Dorado	1,500	1,200	1,200
Root Refining Co., El Dorado	10,000	5,000	5,400
Simms Oil Co., Smackover	3,000	2,400	2,300
Stephens Refining Co., Stephens	750	250	250
Total	37,550	20,850	20,650

NORTH CENTRAL TEXAS

Company and location—	Daily capacity	Aver. daily runs— July	June
All State Refining Co., Thrall	2,300	(*)	(*)
Archer Refining Co., Megargel	1,500	350	300
Atlantic, Pacific & Gulf Refining Co., Wichita Falls	5,000	(†)	(†)
Baird Refining Co., Baird	1,400	800	800
Canyon Oil & Gas Co., Inc., The, Cisco	500	100	100
Continental Oil Co., Wichita Falls	6,000	4,000	4,250
Empire Oil & Refining Co., Gainesville	5,000	3,300	3,000
Exchange Petroleum Corp., Albany	500	200	200
Falls Refining Co., Wichita Falls	2,000	325	260
Gratex Refining Co., Graham	500	100	110
Gulf Refining Co., Fort Worth	10,000	3,660	4,000
Gulf Refining Co., Sweetwater	5,000	4,000	4,000
Haskell Oil Refining Co., Breckenridge	200	(*)	(*)
Jacksboro Refining Co., Jacksboro	50	50	50
LaSalle Petroleum Co., Burkburnett	3,500	300	300
Magnolia Petroleum Co., Fort Worth, No. 1	12,000	3,567	4,500
Magnolia Petroleum Co., Fort Worth, No. 2	6,000	(*)	(*)
Marathon Oil Co., Fort Worth	5,000	4,000	3,300
Moutray Refining Co., Hawley	600	200	200
Muenster Refining Co., Muenster	300	150	150
New Deal Refining Co., Abilene	300	250	260
Nolting Refining Co., Sweetwater	1,000	50	50
Margold Refining Co., West Olney	400	200	200
Octane Refining Co., Chautauqua	500	350	350
Olney Oil & Refining Co., Olney	3,000	1,750	1,700
Omega Refining Co., Brownwood	200	(*)	(*)
Panhandle Refining Co., Wichita Falls	5,000	2,100	2,500
Paragon Refining Co., Lueders	400	175	175
Pentex Refining Co., Echo	400	(*)	(*)
Petroleum Oil Interests, Inc., Brownwood	1,000	400	500
Pilot Point Refining Co., Pilot Point	500	100	100
Sinclair Refining Co., Fort Worth	5,000	2,000	1,800
Southtex Refining Co., Trent	250	150	150
Southland Refining Co., Olney	1,000	(*)	(*)
Starlight Refining Co., Inc., Ballinger	300	200	180
Star Refining & Producing Co., Fort Worth	1,200	500	500
Superior Refining Co., Tiffin	500	(*)	(*)
Taylor Refining Co., Taylor	6,000	600	500
Taxman Refining Co., Wichita Falls	3,000	900	3,100
Texas Pacific Coal & Oil Co., Fort Worth	3,000	2,500	2,500
Texas Pacific Coal & Oil Co., Caddo	1,000	700	600
Tucker Refining Co., Wichita Falls	200	130	130
Waggoner Refining Co., Electra	6,000	2,100	2,200
Watt Refining Co., Brownwood	200	100	100
Total	108,000	40,357	43,110

*Shut down. †Cracking only.

NORTH LOUISIANA

Company and location—	Daily capacity	Aver. daily runs— July	June
Bayou State Refining Co., Hosston	750	300	300
Cedar Grove Refining Co., Shreveport	1,000	(*)	(*)
Louisiana Oil Refining Co., Shreveport, Bossier	22,000	19,000	21,000
Shreveport Refineries, Inc., Shreveport	500	200	200
Spartan Refining Co., Shreveport	10,000	4,000	4,500
Stanolind Oil & Gas Co., Vivian	3,500	2,000	2,000
Texas Co., Shreveport	7,000	(*)	(*)
Total	44,750	25,500	28,000

*Shut down.

WEST TEXAS AND PANHANDLE

Company and location—	Daily capacity	Aver. daily runs— July	June
Active Oil Co., Arno	1,500	(*)	(*)
Aero Refining Co., Pecos	225	100	100
Coltex Refining Co., Colorado	12,500	6,431	6,551
Concho Refining Co., San Angelo	250	50	80
Cosden Oil Co., Big Spring	10,000	6,000	6,000
Danciger Refineries, Inc., Pampa	6,500	6,000	6,000
Howard County Refining Co., Big Spring	1,500	200	200
McNutt Refining Co., El Paso	2,000	800	800
Panhandle Refining Co., Kings Mill	2,000	1,200	1,400
Paramount Refining Co., San Angelo	2,000	(*)	(*)
Pasotex Petroleum Co., El Paso	14,000	5,500	5,500
Phillips Petroleum Co., Borger	30,000	22,000	20,000
Shamrock Oil & Gas Co., Sunray	2,000	1,200	1,300
Shamrock Oil & Gas Co., Meldavis	1,000	1,000	1,000
Sinclair Refining Co., El Paso	2,500	800	800
Texas Co., El Paso	2,000	600	600
Texas Co., Amarillo	4,000	3,000	3,000
West Texas Refining Co., Pecos City	6,000	(*)	(*)
Wickett Petroleum Co., Wickett	2,500	(*)	(*)
Total	102,475	54,881	53,321

*Shut down.

EAST TEXAS

Company and location—	Daily capacity	Aver. daily runs— July	June
Acme Refining Co., Gladewater	500	235	150
Archer Refining Co., Gladewater	1,000	(*)	(*)
Arpana Refining Co., Arp	4,000	3,800	3,900
Arrow Refining & Producing Co., Overton	5,000	550	4,500
Artex Refining Co., No. 2, Arp	1,500	600	(*)
Bartlett Refining Co., Kilgore	200	(*)	(*)
Beacon Oil & Refining Co., Henderson	4,500	2,000	1,800
Blue Ridge Oil Co., Gladewater	1,500	1,000	(*)
Bradley Refining Co., Kilgore	1,000	(*)	(*)
Calcul Refining Co., Gladewater	500	100	(*)
Carnation Refining Co., Gladewater	1,000	(*)	(*)
Century Refining Co., Friars Switch	2,000	1,100	1,500
Chief Refining Co., Gladewater	1,500	750	700
Conroe Refining Co., Kilgore	500	300	(*)
Culver Refining Co., Gladewater	400	100	(*)
Danciger Refineries, Inc., Longview	10,000	(*)	(*)
East Texas Refined Products Co., Kilgore	1,500	(*)	1,100
East Texas Refining Co., Longview	10,000	3,500	6,500
Foshee Refining Co., Gladewater	1,500	(*)	(*)
Friar Topping & Refining Co., Friars Switch	1,500	650	250
Gilliland Refining Co., Gladewater	3,000	2,300	1,600
Gilmer Refining Co., Gilmer	500	(*)	(*)
Gladewater Refining Co., Gladewater	500	(*)	(*)
Godlin Refining Co., Gladewater	850	(*)	200
Hawk Refining Co., Gladewater	500	(*)	(*)
Humble Oil & Refining Co., Neches	5,000	1,000	1,100
Ideal Refining Co., Gladewater	750	50	110
Imperial Refining Co., Kilgore	2,000	50	(*)
Johnson Refining Co., Kilgore	1,000	550	500
Kent Refining Co., Angus	4,000	(*)	(*)
Keystone Refining Co., Gladewater,	1,000	1,000	(*)
Kilgore Reclamation Co., Kilgore	2,000	1,600	(*)
Kilgore Refining Co., Kilgore	3,000	1,800	1,300
Kil-Tex Refining Co., Kilgore	500	(*)	200
L. & A. Refining Co., Kilgore	500	(*)	200
Lake Refining Co., Gladewater	1,700	1,250	1,300
La Prien Refining Co., Kilgore	1,500	600	750
Lindsey Refining Co., Gladewater	2,500	2,200	1,800
Locke Refining Co., No. 1, Gladewater	1,500	(*)	(*)
Locke Refining Co., No. 2, Gladewater	1,500	1,400	1,400
Lone Star Refining Co., Kilgore	2,000	900	800
Longregg Refining Co., Kilgore	2,000	1,700	200
Lotus Refining Co., Gladewater	1,500	300	650
Magnolia Petroleum Co., Corsicana	5,000	3,000	2,300
Master Petroleum Co., Waco	1,000	400	400
Minerva Refining Co., Minerva	2,000	300	400
Model Oil & Refining Co., Reeds Switch	500	(*)	(*)
Ocean Refining Co., Kilgore	2,000	250	1,400
Oil Refineries, Inc., Overton	4,000	2,000	(*)
O.K. Topping Co., Kilgore	1,000	60	220
Oriental Oil Co., Dallas	5,000	(*)	(*)
Overton Refining Co., Overton	3,000	1,800	1,700
Panama Refining Co., Kilgore	2,500	1,900	2,400
Pelican Refining Co., Gladewater	500	400	400
Pelican Refining Co., No. 2, Gladewater	500	200	(*)
Pennant Refining Co., Kilgore	1,000	300	(*)
Phoenix Refining Co., Inc., Dallas	1,000	500	500
Pine Refining Co., Camps Switch	500	(*)	(*)
Price Refining Co., Gladewater	500	(*)	70
Producers Refining Co., Reeds Switch	2,000	(*)	(*)
Recla Refining Co., Turnerstown	200	(*)	(*)
Roca Refining Co., Kilgore	2,200	500	1,600
Rusk County Oil & Refining Co., Overton	3,000	(*)	(*)
S. & E. Refining Co., Omega	200	(*)	(*)
Sandy Refining Co., Big Sandy	1,000	850	150
Shoreline Refining Co., Kilgore	2,000	2,000	(*)
Simms Oil Co., West Dallas	4,000	4,000	1,500
Sinclair Refining Co., Camps Switch	5,000	1,200	2,000
Solarine Refining Co., Overton	3,000	1,000	1,200
Southern Refining Co., Reeds Switch	1,500	1,300	(*)
Southport Refining Co., Kilgore	2,500	1,100	700
Supreme Refining Co., Gladewater	1,000	400	100
Taylor Refining Co., Tyler	15,000	400	560
Texanna Refining Co., Kilgore	2,000	(*)	500
Texas Co., Dallas	16,000	10,000	10,000
Texas State Refining Co., Kilgore	1,000	50	(*)
Trico Refining Co., Turnerstown	200	(*)	(*)
Trio Refining Co., Arp	1,500	1,500	850
Tyler Refining Co., Arp	2,000	2,000	700
Union Refining Co., Camps Switch	3,000	1,400	1,300
Unit Refining Co., Kilgore	200	90	(*)
Upshur Refining Co., Gladewater	1,000	300	235
Utah Refining Co., Kilgore	2,000	200	590
Walrip & Stevens Refining Co., Omega	1,000	(*)	450
Ward, Walrip & Stevens Refining Co., Gladewater	500	(*)	50
Wichita Refining Co., Gladewater	750	(*)	(*)
Wolf Refining Co., Kilgore	1,000	50	100
Total	193,650	70,835	68,516

*Shut down.

Secretary Ickes Reviews First Year of the Code

(Continued from Page 8)

heavy stocks bearing down on the market. To protect the independent refiner, it was stipulated that he should always have available a supply of crude oil to meet his needs.

"In addition to our efforts in behalf of the producer, the refiner and labor, we have been striving to improve marketing conditions in accordance with provisions of the code for eliminating unfair practices.

"The number and extent of violations of some of the marketing provisions of the code have rendered enforcement difficult in many instances. However, as the industry has continued to unite in support of the code, we have found that the extent of compliance grows with the days. Furthermore, we have gone through a constant process of readjustment of the marketing provisions to meet the needs of interests adversely affected by the operation of those originally approved. Numerous hearings have been held by the Petroleum Administrative Board, and I think I can safely say that there is a greater spirit of harmony now prevailing in this branch of the industry than has ever heretofore been present.

"Vicious and destructive price cutting has been one of the evils which we have attempted to meet. In many local situations we have been successful in settling these problems through negotiations with the distributors and dealers. Agreements subscribed to by the vast majority of the industry will shortly be given thorough administrative consideration with a view to stabilizing the market everywhere.

California Situation

"In the California territory we have taken very definite steps through the approval of the Pacific Coast Agency Agreement, which should operate to remedy conditions which have almost bankrupted the Pacific Coast division of the industry. We have not endeavored to fix prices, despite the existence of authority which will permit it, since we recognize that this step should be taken only as a last resort to protect the consumers and the small independent dealer who is literally caught in the middle when a price war is on.

"Another step we have taken through negotiation with the industry to improve marketing conditions is found in the purchasing of surplus gasoline made from hot oil produced in East Texas. This surplus weighed down both the refinery and retail markets so that they could not fairly respond to the economic laws of supply and demand. Some of the leaders in the industry have agreed to buy it up and hold it for ordely marketing. A duel purpose is being served: the gasoline is removed from the market and those who sell it agree not to process any more hot oil, depriving the hot oil producer of buyers.

Lease and Agency

"One of the major problems with which we have been confronted is the so-called lease and agency or lease and license system of retail marketing. Under this system, retail dealers are bound to handle exclusively the products of one distributor. This has tended to freeze the retail outlets in the hands of the larger companies and deprive the independent producer and distributor of necessary outlets. The national marketing agreement, as approved last January, will permit the orderly liquidation of this method of marketing. It provides that lease and agency and similar agreements shall not be renewed as they expire. These agreements could not be cancelled instantly without disrupting the entire marketing structure, because approximately 65 per cent of the retail outlets are involved. The National Marketing Agreement has been resubmitted to the industry for further consideration. It is our understanding that it will be placed before us for reconsideration in the near future.

"Meanwhile, many companies are permitting their lease and agency and similar contracts to lapse, anticipating a ruling which will abolish such contracts. This signalizes the successful conclusion of a campaign originally brought before the Federal Trade Commission by independent operators and associations several years ago, and on which the Federal Trade Commission made no decision.

Prosecutions to Follow

"We have found many problems to be overcome in the enforcement and administration of our program. Our prosecution of violations may appear to some to have been moving slowly. But in blazing a legal trail through an uncharted area, it has been necessary to move slowly to establish precedents. We have proceded along what we believe to be sound lines and now have the necessary test cases pending in the courts. Action probably will move along more swiftly in the future under the arrangement we have just worked out with the Department of Justice, by which the United States District Attorneys will prosecute in the courts when they feel action is warranted. Our attorneys, investigators and technical experts will assist them in gathering material for cases as well as participating in the courtroom in special cases.

"We have found in our experience many weaknesses in the machinery available to us. We sought to correct some of these in advocating the Disney-Thomas bill at the last session of Congress. The failure of Congress to enact the legislation for which we asked will not prevent us from continuing our efforts for stability and conservation with whatever means we may develop. These measures, of necessity, will be stop-gap methods and will be changed as conditions warrant. It is our expectation to renew at the next session of Congress our request for legislation we consider necessary to correct the flaws we have found.

"Meantime, we hope to maintain the progress we have made thus far. I believe that we can do it. We have no intention of yielding in our campaign to prevent the selfishness of the few from destroying the rights of the many. The majority of the industry is firmly behind us. We shall continue to fight for a sound program. I believe that we will ultimately realize our objective."

Pipe Bending Developed Into Mechanical Art

(Continued from Page 11)

heated it is usual practice to place the bending block in the desired position and then pull on the pipe beyond the heated portion by a block and tackle with the power furnished by the gang of men working in the pipe bending crew. This method is preferable to using power from the tractor because it is very necessary that only just the right amount of bend be taken at each heating if the proper curve is to be given to the pipe. As many as 8 or 10 heats may be taken in making one bend, the heater and shield being moved along the pipe as needed.

To properly perform this work on either kind of line it is necessary that a well organized field crew of engineers accompany the pipe line gang and take careful measurements frequently. Small errors may prove to be quite expensive, especially so if they cause delay of the welding and pipe-laying crews.

One procedure that is sometimes followed in the laying of coupled pipe is to first accurately measure the pipe. Then the ditch is measured and a marker left at the end of each section bearing a number corresponding to the pipe for that particular position. This method permits the workmen to determine whether the pipe is checking with the measurements and is being properly assembled before it is lowered into the ditch.

Experience has shown that it is possible to gain from 1 inch to 1½ inches on each coupling when laid on level ground. This may be corrected by setting markers at every sixth section to compensate for this accumulated gain in length. It is quite essential that the grading crew work in conjunction with the measurer of the pipe and ditch to insure bends and sections fitting in the ditch.

Department of Justice Joins Campaign for Code

(Continued from Page 9)

by a decision of Louis Titus, chairman of the legal subcommittee, is that under this contract the Pan American Refining Corp. does not refine the gasoline. Under the language of Paragraph 3 of Section 3 of Article 4 it is provided that "an agency designated by the Planning and Coordination Committee and the district allocator in joint session shall establish fair and equitable quotas for each refinery operating in the district. Mr. Titus' decision, on which was based the ruling of the board, says that allocations are to be to refineries, not to persons selling refined products, nor even to refiners.

The ruling of the board classifies this company in the same category as a marketer with a large outlet but only a small refinery. It is obvious, says the decision rendered, that such a company would not be entitled to an allocation many times beyond the capacity of his plant, merely because he had a market for a large additfonal amount of gasoline.

Quotas in commerce for crude oil are expected to be put into the code by amendment in the near future. The Petroleum Administrative Board is working out the language and will submit the finished product to Administrator Ickes within a few days.

Richberg Off Committee

Donald Richberg, one of the government representatives on the Planning and Coordination Committee, has resigned. Mr. Richberg submitted his resignation directly to President Roosevelt about a month ago, but no announcement to the disposition of the resignation has been made.

Drilling Pay

The Planning and Coordination Committee, with the approval of the petroleum administrator, presents an interpretation of the orders dated March 20, 1934, and May 5, 1934, with reference to minimum rates of pay pertaining to drilling operations. This interpretation clarifies "cleaning out" and "swabbing" of production operations with relation to application of the provisions of Article 2, Section 1, of the petroleum code.

The text of the interpretation follows:

"The wage minimums established in the petroleum administrator's orders of March 20, 1934, and May 5, 1934, shall apply only to drillers and helpers engaged in true drilling operations, including the original drilling of wells and subsequent deepening of same. The operations of 'cleaning out' and/or 'swabbing' to rehabilitate or improve the productiveness of wells already drilled and produced, though often performed by employes called 'drillers,' etc., are hereby classified as production operations. The employes engaged in such operations are hereby classified as production employes, and the minimum wages for such employes shall be established by the same procedure as that establishing 'equitable differentials' for other employes in production operations."

The Planning and Coordination Committee, with the approval of the petroleum administrator, also announced a reduction of 15 per cent in the wage minimums pertaining to drilling operations in the Bradford area in accordance with the administrator's order of March 20, 1934.

Copy of the resolution follows:

Resolved, that upon the approval and recommendation of the production subcommittee, the Planning and Coordination Committee recommends that the wage minimums pertaining to drilling operations in what is known as the Bradford area, Pennsylvania, in all horizons from 1,000 feet to 2,500 feet in depth shall be 15 per cent less than the regular differentials as per order of the secretary, approved the twentieth day of March, 1934; the drilling practices committee for the Bradford area have heretofore petitioned that the said wage minimums be reduced 15 per cent; and, that this application be forwarded to the oil administrator for his approval and authorization.

Congressional Investigating Committee Visits in Tulsa

(Continued from Page 9)

months he estimates that the industry will be just as insistent in its demands to be permitted to manage its own affairs as it now is asking for Federal regulations in all details of the industry's business.

Judge Cole, chairman of the committee, who followed Mr. Marland, thanked him for his suggestions. Judge Cole said no opinions had been formed by the committee yet but the investigation would be thorough and everyone desiring to do so will be given an opportunity to appear at the hearings to be held in the various centers of the industry from coast to coast and from the Canadian border to the Gulf of Mexico.

"In Washington," said Representative Cole, "during the hearings on the oil bill, we were told that if the Federal control measure sponsored by your Senator Thomas and Representative Disney did not pass, the industry would descend into a state of demoralization heretofore unheard of. We were told that prices were slated to be cut both on crude and refined products and that many men would be thrown out of work.

"We, of course, are unable to learn that such results have followed and we would like to know why."

The committee that welcomed the visitors to Tulsa was composed of W. G. Skelly, chairman; A. E. Bradshaw, George S. Rollin, Nelson K. Moody, C. E. Buchner, Clarel B. Mapes, Otis McClintock, J. C. Denton, R. S. Ellison, L. B. McCammon and N. R. Graham. The investigating committee is traveling by train and automobile but Speaker Rainey flew to Tulsa from Hot Springs, Ark.

CONGRESSMEN VISIT MICHIGAN

MUSKEGON, Mich., July 9.—Three members of the subcommittee of the House Interstate and Foreign Relations Committee, Representative Carl E. Mapes of Grand Rapids, Mich.; S. B. Petingill of South Bend, Ind., and E. A. Kelly of Chicago, accompanied by Representative Roy O. Woodruff of Bay City, Mich., visited the Michigan fields last week. They visited the Porter Pool and the Roosevelt refinery in Mount Pleasant, the Pure Oil Co. refinery in Midland, and the Chippewa-Greendale Field.

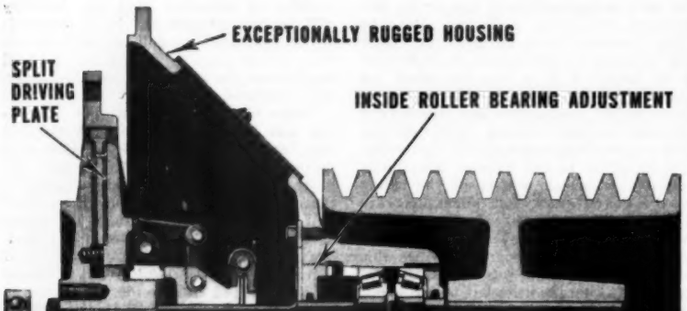
TABLE SALT COMBATS HEAT

Ordinary table salt keeps muscles strong during hot weather and the Standard Oil Co. of Louisiana makes a practice to supply men with salt tablets as an effective means of minimizing exhaustion from heat. The company has this to say in favor of the practice:

"It has been our experience, at the refinery, that we have secured good results among our employes who diligently take salt tablets during their summer working hours. Every severe case of heat exhaustion that has come into the emergency hospital within the past two years has been of some one who did not take any of the salt tablets.

"Everyone is more or less familiar with the large amount of salt which is lost through the skin in excessive sweating. The body normally requires a certain amount of salt in order to carry on its normal functions, and when this supply is decreased to a very low level the muscles are thrown into spasms which produce cramps. The salt tablets—or heat tablets—which are distributed throughout the refinery, and which are available for all the workmen, are made of nothing but common table salt, the same as was used by the people at work on the Boulder dam project. By taking from 5 to 10 of these salt tablets during an eight-hour period one is able to replace the salt which is lost to the body by excessive sweating."

Twin Disc Power Take-Off Unit No. 8246 (embodying Clutch B-1-11½, with split driving plate). Fitted with exceptionally rugged housing . . . . oversize tapered roller bearings extend out well under the sheave pulley. Bearing adjustment may be made from inside housing through hand hole, *without removing sheave.* To facilitate replacement all lubricating fittings are accessible and bearing end of housing has no external projections or fixtures. This permits use of small diameter sheaves.



ANNOUNCING
IMPROVED
POWER TAKE-OFF
UNITS
FOR OIL WELL PUMPING

Recognizing the extraordinarily severe operations encountered in continuous oil well pumping service, Twin Disc Engineers have developed a new and improved series of Power Take-Off Units—especially designed and built to stand the gaff on even the most difficult pumping jobs. Sixteen years close co-operation with the oil industry in solving its clutch problems makes the advice of Twin Disc Engineers decidedly valuable to you. *Write* for specific recommendations. Engineering data on request. *Twin Disc Clutch Company, 1328 Racine St., Racine, Wis.*

SALES AND SERVICE

Fort Worth
Jno. Mueller Co.
312 Throckmorton

Tulsa
Buda Engine Service Co.
of Tulsa, Inc.

TWIN DISC
CLUTCHES

East Central Texas Wildcats

(Continued from Page 45)

FANNIN COUNTY

Kean et al's No. 1 L. M. Boyd, 900 ft. from E line and 300 ft. from N line of survey, W. Hunt Sur. .... Waiting on cmt. to set; T.D. 4,278 ft.

FREESTONE COUNTY

American Liberty Oil Co.'s No. 1 Trinity Farm Security Co., center of N and S lines and 466 ft. from E line of survey, J. B. Bonham Sur. .... Moving in.
Burris' No. 1 R. J. Johnson, NE cor. of a 95.5-ac. tract, W. M. C. Jones Sur. .... Location.
Clyde Creighton's No. 1 Holly Bros., 854 ft. from W and center N and S lines of lease, A.B.&M. Sur. .... Drlg. 5,576 ft.
Gholson et al's No. 1 E. M. and C. H. Watson, 1,450 varas from N line and 1,150 varas from W line of survey, 6 miles NE of Fairfield, R. D. Price Sur. .... Location.
Trinity Farm Co.'s No. 1 N. R. Stewart, 1,866 ft. SW from NE line and 933 ft. SE from NW line of 1,926-ac. tract, R. M. Williamson Sur. .... Moving in.
J. E. Wilburn's No. 1 S. McShan, 4,000 ft. from MWL and 5,000 ft. from NEL of survey, G. Diaz Sur.... Waiting on cmt. to set.

HENDERSON COUNTY

Big Bad Wolf Oil Co.'s No. 1 McCreary, 1,500 ft. from W line and 330 ft. from S line of survey, 6 miles S of Malakoff, W. H. Irvin Sur. .... Derrick.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 70-ac. tract, 1 mile SE of Miller Grove, A. Caro Sur. .... Derrick.

HUNT COUNTY

H. G. Waggoner et al's No. 1 Love (old well being drilled deeper), 300 ft. from N line and 650 ft. from W line of 95-ac. tract, John Gillisky Sur. .... Coring 3,660 ft.
G. S. & S. Co.'s No. 1 Oscar Popper, 2,670 varas from S line and 810 varas from E line of survey, 5 miles NW of Greenville, James Moore Sur. .... Drlg. 474 ft.

KAUFMAN COUNTY

W. J. Lewis et al's No. 1 D. Clark, 430 ft. from S line and 600 ft. from E line of survey, 6½ miles NW of Elmo .... S.D. 500 ft.

LAMAR COUNTY

Cole et al's (formerly Optometrist Oil Club) No. 1 J. M. McFaddin, 450 ft. from S and W lines of E 25-ac. tract, 10 miles NW of Paris, Joseph Dick Sur. .... S.D. 2,506 ft.

LIMESTONE COUNTY

Schultz' No. 1 Roy Ward, NE cor. of 73.3-ac. tract, 5 miles W of Mexia Field, Harrison York Sur. .... Spudded.

MORRIS COUNTY

McGinnis et al's No. 1 Staggers, 800 ft. from S line of survey and 150 ft. from W line of lease, J. B. Nelson Survey .... Drlg. 2,700 ft.

NACOGDOCHES COUNTY

Livingston Oil Co.'s No. 1 C. B. Watkins, 150 ft. from N line and 330 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y. Bailey Sur. .... S.D. for repairs.
J. W. Rich and others' No. 1-A R. W. Hazlewood, 5,450 ft. from S line and 2,800 ft from W line of survey, 50 ft. N of No. 1, 15 miles SW of Nacogdoches, Ewing Sur. .... S.D. for surface csg.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE L of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur. .... Drlg. 565 ft.
W. J. Keeling et al's No. 1 J. F. Rushing, 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur. .... Derrick.
McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-ac. tract, 1 mile W of Dawson, William Moss Sur. .... S.D. 625 ft.
Wheelock and Collins' No. 1 I. N. Cerf, 375 ft. from N line of lease and 1,050 ft. from W line of lease, James Smith Sur. No. 726 .... S.D. 4,158 ft.

RAINES COUNTY

I. W. Hallsell et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B. B.&C. Sur. .... S.D. for water.

RUSK COUNTY

George Hudson et al's No. 3 Jeff Phillips, 150 ft. from N line of survey and 700 ft. from W line of 100-ac. tract, 4 miles SE of Minden, N. Villaria Sur. .... S.D. 3,616 ft.

SMITH COUNTY

Preston Rose et al's No. 1 Elisha Wiggins, 2,300 ft. from W line and 330 ft. from S line of 640-ac. tract, 2 miles SW of Winona, F. H. K. Day Sur., Abstract No. 285 .... S.D. 4,200 ft.

UPSHUR COUNTY

Ben G. Barnett et al's No. 1 W. S. Jones, 200 ft. out of SW cor. of 100-ac. tract, 1½ miles NW of Jamestown, James N. Dunn Sur. .... Bailed S.W. 3,700 ft.
Virgil Hodges et al's No. 1 J. M. Floyd, 330 ft. from NE cor. of 126-ac. tract, 4 miles N of Gladewater, Railroad Sur. .... Shut down.
Lanier and Moore's No. 1 Vaughan, 220 ft. from S line and 330 ft. from W line of 160-ac. tract, 2 miles NW of Big Sandy, F. W. Standifer Sur. .... S.D. 1,042 ft.
Sanderson et al's No. 1 Nid Minor, 600 ft. from NW line and 1,800 ft. from NE line of tract, D. R. Cannon Sur. .... S.D. 3,700 ft.

VAN ZANDT COUNTY

Germany et al's No. 1 C. S. Coker, 150 ft. out of SW cor. of 55-ac. tract, William Daniel Sur. .... S.D. 1,208 ft.
Dillum and Allen et al's No. 1 A. T. Bass, 150 ft. from W. line and 150 ft. from N line of 10-ac. tract, William Hart Sur. .... Moving in 4-in. drill pipe.
Isaac et al's No. 1 C. F. Darrell, 330 ft. from S and W lines of 53-ac. tract, C. B. River Sur. .... Drlg. 1,320 ft.
Markin & Evens' No. 1 L. M. Palmer, 850 ft. E of W line and 150 ft. N of S line of 69.8-acre tract, one-tenth mile E of Pruitt, Nacogdoches County School Land Sur. .... S.D. 20 ft.
Miller et al's No. 1 J. M. Palmer, 150 ft. from S and E lines of 69-ac. tract, Nacogdoches County School Land Sur. .... T.D. 225 ft.
Peden and Olson's No. 1 W. Banson, 600 ft. S of No. 2 and 140 ft. from W line of tract, J. Goodman Sur. .... Spudded.
Pure Oil Co.'s No. 5 A. G. Maxfield, 1,576 feet N of S line and 350 ft. W of E line of the Maxfield 107.8-acre tract, Nacogdoches County School Land Sur.... Reaming hole to straighten; T.D 2,435 ft.
Shell Petroleum Corp.'s No. 4 B. M. Fowler, 224 ft. N of most southerly S line and 179 ft. W of E line, John Walling Sur. .... Location.
Wheeler et al's No. 1 Cade, 180 ft. from S line and 150 ft. from E line of 20-ac. tract, Nacogdoches County School Land Sur. .... S.D. 1,265 ft.
Peden and Olsen's No. 1 J. M. Palmer, 200 ft. from E and N lines of south 2 acres of 94-ac. tract, Nacogdoches County School Land Sur. .... Bailed dry; got 70 ft. of oil in hole.

WOOD COUNTY

Gauble and Thompson's No. 1-A N. G. Bobbett, 900 ft. from S line and 330 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur. .... S.D. 5,554 ft.
Alex Snyder et al's No. 1 T. Holmes, 200 ft. out of NE cor. of 122-ac. tract, 1½ miles SE of Hawkins, A. N. McKnight Sur. No. 399 .... S.D. 3,615 ft.

Wildcat Operations in West Texas

(Continued from Page 44)

CROCKETT COUNTY

J. D. Young's No. 1 Shannon, 330 ft. from W line, 330 ft. from N line of Sec. 34, Blk. 1, G.C.&S.F. Sur. ..... S.D. 2,635 ft.

CULBERSON COUNTY

Anderson-Pritchard Oil Corp.'s No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur... Rig on ground.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 31, Blk. 97, P.S.L. Sur. ..... S.D. 1,062 ft.

DAWSON COUNTY

Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur. ..... S.D. 2,390 ft.

ECTOR COUNTY

Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur. ..... To straighten crooked hole; T.D. 1,180 ft.

Continental Oil Co.'s No. 2 O. B. Holt, 1,980 ft. from S line and 1,980 ft. from W line of Sec. 20, Blk. A, P.S.L. Sur. ..... Drlg. 2,275 ft.

C. J. Davidson et al's No. 1 Cole, 660 ft. from N line and 660 ft. from W line of Sec. 10, Blk. 45, Twp. 1s, T.&P. Sur. ..... Prepare to shoot; T.D. 4,509 ft.

Harrison et al's No. 2 Addis, 990 ft. from N line and 2,300 ft. from W line of Sec. 34, Blk. 43, Twp. 2s, T.&P. Sur. ..... S.D. 3,845 ft.

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,300 ft. from W line of Sec. 34, Blk. 43, Twp. 2s, T.&P. Sur. ..... Location.

Humble Oil & Ref. Co.'s No. 3 Jones, 2,310 ft. from S and 2,310 ft. from W, Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur. ..... T.D. 855 ft.

Humble Oil & Ref. Co.'s No. 1 H. H. Pegues, 2,310 ft. from E and 2,310 ft. from S, Sec. 37, Blk. 43, Twp. 2s, T.&P. Sur. ..... Rig up.

Landreth Prod. Co.'s No. 2-A Texas Pacific Land Trust, 441 ft. from N line and 440 ft. from W line of Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur. ..... Drlg. 3,300 ft.

Landreth Prod. Co.'s No. 1-B T. P. Land Trust, 2,300 ft from the S line and 440 ft. from the W line of Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur. ..... T.D. 3,963 ft.

Landreth Prod. Co.'s No. 1-C T.P. Land Trust, 440 ft. N and 440 ft. W of Sec. 11, Blk. 43, Twp. 1s, T.&P. Sur. ..... Moving in rig.

Landreth Prod. Co.'s No. 2 O. B. Holt, 660 ft. from S and E lines of Sec. 15, Blk. 43, Twp. 1n, T.&P. Sur. ..... Rig up.

Landreth Prod. Co.'s No. 1 Clarence Scharbauer, 660 ft. from S and E lines of Sec. 20, Blk. 44, Twp. 1n., T.&P. Sur. ..... Drlg. 3,245 ft.

Landreth Prod. Co.'s No. 1 O. B. Holt, 1,980 ft. from S line and 660 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur. ..... 1,100 ft. of oil in hole; T.D. 4,300 ft.

McCurdy et al's No. 1 Foster, 330 ft. from S line and 440 ft. from W line of Sec. 36, Blk. 43, Twp. 2s, T.&P. Sur. ..... T.D. 4,285 ft.

Moran Drlg. Co.'s No. 1 Smith, 330 ft. from N line, 330 ft. from W line of Sec. 13, Blk. 43, Twp. 1s, T.&P. Sur. ..... S.D. 4,425 ft.

Skelly Oil Co.'s No. 1 Connell, 1,650 ft. from N line and 440 ft. from E line of Sec. 11, Blk. 16, P.S.L. Sur. ..... T.D. 3,582 ft.

Skelly Oil Co.'s No. 5-A University, 660 ft. from N and 1,980 ft. from E, Sec. 1, Blk. 35, University Sur. ..... Location.

Texas Co.'s No. 10 W. E. Connell, 2,310 ft. from E line and 330 ft. from the S line of Sec. 1, Blk. B-16, P.S.L. Sur. ..... Drlg. 1,625 ft.

Fred Turner's No. 3-A Addis, 2,310 ft. from N and 440 ft. from E of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ... Cellar.

York-Harper et al's No. 1 Bates, 660 ft. from N and 660 ft. from E, Sec. 36, Blk. 44, Twp. 2s, T.&P. Sur... S.D. 3,985 ft.; show of oil 3,977 ft.

EDWARDS COUNTY

O. Houseman's No. 1 Turney, 1,650 ft. from N line and 330 ft. from W line of Sec. 176, C.C.S.D.& R.G.N.G. Sur. ..... T.D. 410 ft.; no report.

H. E. Sides' No. 1 Turney, 1,650 ft. from N line and 330 ft. from W line of Sec. 176, C.C.S.D.&R.G.N.G Sur. ..... T.D. 500 ft.; no report.

FISHER COUNTY

E. T. Campbell et al's No. 1 W. R. Bishop, 570 ft. from S and 150 ft. from E of NW cor. of Sec. 18, Blk. 21, T.&P. Sur. ..... Moving in.

Condor Pet. Co.'s No. 1 Herring, 450 ft. from S and 330 ft. from W line of Sec. 193, Blk. 1, B.B.B.&C. Sur. ..... T.D. 3,110 ft.; plugged back to 3,106 ft.; will treat with acid.

Condor Pet. Co.'s No. 2 Wilson, 640 ft. from N and 2,310 ft. from W line of Sec. 6, Blk. R, W. E. Richardson Sur. ..... Drlg. 810 ft.

Stanolind Oil & Gas Co.'s No. 5 Steele, 1,170 ft. from S and 990 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur. ..... S.D.; T.D. 3,180 ft.

Texas Co.'s No. 2-B Teagarden, 990 ft. from S and 330 ft. E of NW cor. of S half of Sec. 9, Blk. 8, W. E. Richardson Sur. ..... Material on ground.

Texas Co.'s No. 1 First National Bank of Rotan, 330 ft. N and E of the NW cor. of Sec. 216, B.B.B.&C. Sur. ..... Drlg. 1,120 ft.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 3 Hart Phillips, 1,050 ft. from N and 660 ft. from W, Sec. 24, Blk. 33, Twp. 2s, T.&P. Sur. ..... Location.

Steve Currie et al's No. 1 Underwood, 660 ft. from N line and 660 ft. from E line of Sec. 24, Blk. 3, Twp. 4s, T.&P. Sur. ..... Spudding.

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 32, Blk. 34, Twp. 2s, T.&P. Sur. ..... T.D. 2,680 ft.

John I. Moore's No. 1 Hubbard, 660 ft. from E line, 660 ft. from S line, Sec. 16, Blk. 34, Twp. 5s, T.&P. Sur... Moving in.

Luce & Pickens' No. 1 Lee, 330 ft. from N and 330 ft. from W, Sec. 30, Blk. 32, Twp. 2s, T.&P. Sur. ..... Drlg. 1,000 ft.

Simms Oil Co.'s No. 2 W. P. Edwards, 330 ft. from S and 990 ft. from E of Sec. 18, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 2,450 ft.

Simms Pet. Co.'s No. 2 W. P. Edwards, 330 ft. from E line, 1,353 ft. from S line, Sec. 18, Blk. 33, Twp. 2s, T.&P. Sur ..... Drlg. 2,313 ft.

Tribal Oil Co.'s No. 5 M. M. Edwards, 330 ft. from S line and 990 ft. from the W line of Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. ..... S.D. 2,452 ft.

HOWARD COUNTY

Continental Oil Co.'s No. 10 Settles, 330 ft. from N line, 1,650 ft. from W line, Sec. 133, Blk. 29, W.&N.W. Sur. ..... Cellar.

Eastland Oil Co.'s No. 1 Chalk, 2,310 ft. from S and 1,980 ft. from W, Sec. 125, Blk. 29, W.&N.W. Sur..... Drlg. 858 ft.

Fuglarr & Patterson's No. 1 Hyman, 330 ft. from S line and 330 ft. from W line of Sec. 39, Blk. 29, W.&N.W. Sur. ..... Drlg. 610 ft.

Humble Oil & Ref. Co.'s No. 4 Settles, 330 ft. from S and 2,310 ft. from W, Sec. 132, Blk. 29, W.&N.W. Sur. ..... Drlg. 1,937 ft.

The World's Record BERRY WELL

Was Reamed With 7¾" SIEVERS REAMERS

before setting the 9917 feet of 6⅝" partially flush joint casing. Also, the Sievers Reamer was used intermittently as drilling bit and core barrel stabilizers.

The Deepest Well Drilled In 1933

successfully set a record string (9642 feet) of 7" full coupled casing in a 9" Sievers Reamed hole. This hole was originally drilled to 8½" and was opened up to 9" exclusively by the Sievers Reamer. This string was set in the short time of 25 hours.

The World's Longest and Heaviest String Of 13⅜" Casing

was successfully landed at 6778 feet. The Sievers Reamer again played the important part in allowing this pipe to be freely set in a perfectly round reamed hole.

The above are only a few of the remarkable jobs accomplished by the positive sheering action obtained by the use of the Sievers Reamer. Detailed descriptions of the merits of this reamer may be obtained by sending for our newly printed Catalogue No. 3.

SECURITY ENGINEERING CO.

Whittier California

Mid-Continent Distribution

WILSON SUPPLY COMPANY

HOUSTON TEXAS

SIEVERS REAMER

California Oil Co.'s No. 1 A. M. Bell, 465 ft. from W line and 1,915 ft. from E line of Sec. 12, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 2,210 ft.
California Oil Co.'s No. 1 Dodge, 1,915 ft. from E line and 465 ft. from S line of Sec. 1, Blk. 30, T.&P. Sur. Drlg. 1,425 ft.
Continental Oil Co.'s No. 9 Settles, 330 ft. from N line and 990 ft. from W line of Sec. 133, Blk. 29, W.&N.W. Sur. ..... Drlg. 2,330 ft.
Dorn et al's No. 1-B Davis, 2,310 ft. from N line and 2,310 ft. from W line of Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 1,280 ft.
L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, Blk. 30, Twp. 1s, T.&P. Sur. ..... Derrick.
Plymouth Oil Co.'s No. 11 Kloh, 1,320 ft. from S line and 660 ft. from W line of Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur. ..... Underreaming 1,625 ft.
Permian Pacific Pet. Co.'s No. 1 Cappa, 330 ft. from SW cor. of Sec. 17, Blk. 29, Twp. 1s, T.&P. Sur. ..... Location.
Plymouth Oil Co.'s No. 10 Kloh, 660 ft. from S line and 660 ft. from W line of Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur. ..... S.D. 2,465 ft.
Joe Rusk et al's No. 5 G. M. Dodge, 330 ft. from the N line, 330 ft. from the E line, Sec. 9, Blk. 30, Twp. 1s, T.&P. Sur. ..... Moving in machine.
Sinclair Prairie Oil Co.'s No. 12 Dodge, 330 ft. from S line and 2,360 ft. from W line, Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. ..... Set csg. 2,350 ft.
Southern Oil Co.'s No. 1 Frazier, 660 ft. from S line and 660 ft. from W line of Sec. 4, Blk. 33, Twp. 1s, T.&P. Sur. ..... Drlg. 2,220 ft.

IRION COUNTY

S. E. Colgin's No. 1 Tankersley, 550 ft. from E of river and 150 ft. from S line of Sec. 723, H. J. Voelker Sur. ..... S.D. 1,358 ft.
Melrose Oil Co.'s No. 1 J. D. Sugg, 1,700 ft. from the E line and 308 ft. from the S line of Sec. 25, Blk. 2, H.&T.C. Sur. ..... Spudded and S.D.
Williams-Short's No. 1 Gentry, 2,300 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur. T.D. 1,340 ft.

JONES COUNTY

Clifton & Brazelton et al's No. 1 Cassey, 200 ft. from N and W lines of SE cor. of Sec. 15, Blk. 15, T.&P. Sur. ..... S.D. 800 ft.
Elmer Close et al's No. 1 A. B. Faulks, 330 ft. from N line and 330 ft. from W line of Subdiv. No. 27, Henry Millard Sur. ..... S.D. 1,970 ft.
Guthrie & Lancaster's No. 1-B Campbell, 330 ft. from N and 2,276 ft. from E line of Sec. 15, Blk. 19, T.&P. Sur. ..... S.D. 1,020 ft.
Southern Oil Corp.'s No. 2 Williams, 330 ft. from S and W line of Sec. 17, Blk. 19, T.&P. Sur. ..... Underreaming; T.D. 2,360 ft.

LOVING COUNTY

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 32, Blk. 33, H.&T.C. Sur. ..... Location.
R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 32, Blk. 33, H.&T.C. Sur. .... Location.
R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 32, Blk. 33, H.&T.C. Sur. ..... Location.
Eppenauer Drlg. Co.'s No. 2 Hammill & Ellis, 410 ft. from NW and 796 ft. from NE lines of Sec. 2, Blk. 1, W.&N.W. Sur. ..... Cellar.
D. C. Evans' No. 1 W. D. Johnson, 2,210 ft. from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur. ..... Rig up.
H. W. Martin's No. 4 Wheat, Ramsey, 990 ft. from SE and SW lines of Sec. 33, Blk. 1, W.&N.W. Sur. ... Drlg. 2,850 ft.
J. F. Slack's No. 1 Covey, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 3, Blk. 2, W.&N.W. Sur... Drlg. 2,100 ft.

PECOS COUNTY

Mack T. Anderson's No. 1 McKenzie, 660 ft. from S line and 660 ft. from W line of Sec. 1, Blk. 604 ..... T.D. 1,365 ft.; S.D. for storage.
California Oil Co.'s No. 7 Smith, Lease No. 1, 275 ft. from N and 1,094 ft. from E, Sec. 37, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 1,100 ft.
Cardinal Oil Co.'s No. 17-E Tippett, 150 ft. from E line of W half and 720 ft. from N of No. 5-E, Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Waiting on orders; T.D. 481 ft.
Culberson Bros.'s No. 15-B Monroe, 725 ft. from N line and 1,580 ft. from E line of Sec. 39, Blk. 194, G.C.&S.F. Sur. ..... Location.
C. S. Messenger's No. 2 Rand Jones, 1,935 ft. from S line and 1,013 ft. from W line of Sec. 5, Blk. 9, H.&G.N. Sur. ..... S.D. 350 ft.
Mid-Kansas Oil & Gas Co.'s No. 12 Smith-Taylor, 1,296 ft. from S line, 1,390 ft. from W line, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 150 ft. W of S half of Turner Tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Road.
Mid-Kansas Oil & Gas Co.'s No. 25 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Trace No. 1, Sec. 33 ..... S.D. 750 ft.
Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Cellar.
Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 350 ft. from N line and 350 ft. from W line of Turner Sur. No. 3. S.D. 590 ft.
Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 498 ft. S of N line of Sec. 33 and 344 ft. W of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 498 ft. S of N line of Sec. 33 and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 27 Smith-Taylor, 194 ft. from N and 865 ft. from E of Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... S.D. 505 ft.
Mid-Kansas Oil & Gas Co.'s 35-B Yates, 1,619 ft. from N and 159 ft. from W of Sec. 61, Blk. 1, I.&G.N. Sur. ..... Running csg.; T.D. 1,120 ft.
Mid-Kansas Oil & Gas Co.'s No. 38-A Yates, 250 ft. E and 205 ft. S from the NE cor. of Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 39-A Yates, 150 ft. N and 250 ft. W of the NW cor. of Turner tract No. 4, in Sec. 34½, I. G. Yates Sur. ..... Cellar.
Mid-Kansas Oil & Gas Co.'s No. 40-A Yates, 344 ft. from E line and 395 ft. from N of SE cor. of S half of Turner Tract No. 1 ..... S.D. 680 ft.
Mid-Kansas Oil & Gas Co.'s No. 34-B Yates, 1,088 ft. from N line and 498 ft. from W line of Sec. 61, I.&G.N. Sur. ..... S.D. 1,107 ft.
Simms Pet. Co.'s No. 2 A. J. Devlin, 330 ft. from the N line and 330 ft. from the E line of the most easterly NE cor. of Sec. 2, John D. Duval Sur., Abst. No. 3,824 ..... Location.
Tex-Mex Pet. Co.'s No. 1 Netterville, 5,610 ft. from S and 330 ft. from W of Sec. 59, Blk. 3, H.&G.N. Sur. Drlg. 1,447 ft.
Trans-Texas Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur. ..... S.D. 340 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 15-C University, Sec. 12, Blk. 3... Drlg. 4,410 ft.
E. P. Kirschner and White's No. 1 W. A. White and McIntosh, 720 ft. from E and 800 ft. from N of Sec. 1,273, H.L.&R.R. Sur. ..... S.D. 2,890 ft.
Skelly Oil Co. et al's No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 5, University Land Sur. ..... Moving in.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,310 ft. from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur... Spudded.
Grisham & Hunter Corp.'s No. 1-A fee, 1,320 ft. from N line and 1,470 ft. from E line, Sec. 1, Blk. 50, Twp. 8, T.&P. Sur. ..... Drlg. 900 ft.
Hugo Freels' No. 1 B. Greenman, 330 ft. from NE line and 231 ft. from SE line of Sec. 31, Blk. 2, H.&G.N. Sur. ..... Shot 220 qts. from 3,778-3,980 ft.; no results; S.D.; T.D. 3,985 ft.

RUNNELS COUNTY

Agnew & Sons' No. 2 Fowler, 1,165 ft. from S and 150 ft. from W of NE cor. of Blk. 23, N. Travis Sur. .... S.D. 2,559 ft.
Agnew and Currie's No. 1 H. E. Wade, 2,640 ft. from N line and 330 ft. from E line of Sec. 34, Domingo Diaz Sur. No. 532 ..... Set surface csg.; T.D. 33 ft.
Anderson et al's No. 1 W. F. James, 330 ft. from N and W lines of Subdiv. No. 20, Norvell Travis Sur. ..... Drlg. 1,060 ft.
Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 100 ..... T.D. 1,429 ft.
W. S. Sawyer et al's No. 1 Giesecke, 1,211 ft. from N and 4,606 ft. from E lines of survey, Blk. 131, James Hughes Sur. ..... S.D. 2,033 ft.; showing oil.
F. D. Williams' No. 1 J. L. Elkins, 2,225 ft. from E and 1,300 ft. N of SW cor. of Blk. 12, but in Blk. 13, N. Travis Sur. No. 533 ..... S.D. 1,400 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur. (old well being drilled deeper) ..... T.D. 5,591 ft.; will drill ahead.
Humble Oil & Ref. Co.'s No. 1 Ike Honig, 2,640 ft. from N line and 2,650 ft. from E line of Sec. 38, Blk. M, G.H.&S.A. Sur. ..... Moving in.

SCURRY COUNTY

Paul C. Teas' No. 1 Chapman, 660 ft. from S and 660 ft. from W, Sec. 100, Blk. 9, H.&T.C. Sur. ..... Spudded.

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,157 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur. ..... S.D. 5,635 ft.

TOM GREEN COUNTY

Southwest Exploration Co.'s No. 1 Bennett, 1,320 ft. from S and 1,320 ft. from W of Section 1,628, Behringer Sur. ..... Underreaming; T.D. 2,536 ft.

UPTON COUNTY

Broderick & Calvert's No. 1 Homer Trus. & Savings Bank, 1,980 ft. from N line, 660 ft. from W line, Sec. 22, Blk. B-42, Twp. 4s, T.&P. Sur. ..... T.D. 610 ft.
Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur. ..... Drlg. 10,626 ft.
Perry & Breeding's No. 1 Lane, 1,650 ft. from S line and 990 ft. from E line of Sec. 36, Blk. 1, M.K.&T. Sur... Location.
Texas Pacific Coal & Oil Co.'s No. 3-D J. F. Land, 990 ft. from S line and 990 ft. from W line of Sec. 36, Blk. 1, M.K.&T. Sur. ..... T.D. 2,378 ft.
Theabotal Oil Co.'s No. 2 J. F. Lane, 1,650 ft. from N and 990 ft. from E of Sec. 36, Blk. 1, M.K.&T. Sur. ..... Drlg. 2,125 ft.
Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur... S.D. 1,995 ft.

VAL VERDE COUNTY

South-Western Exploration Co.'s No. 1 E. K. Fawcett, 2,310 ft. from S and 2,310 ft. from E, Sec. 14, Blk. L, G.C.&S.F. Sur. ..... Rig up.

WARD COUNTY

Atlantic Oil & Prod. Co.'s No. 3 Barrow, 2,310 ft. from NE line and 990 ft. from NW line of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,117 ft.
Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,760 ft.
Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, H.&T.C. Sur... Location.
H. L. Randall et al's No. 1 Lee Monroe, 2,310 ft. from NE and 330 ft. from SE lines of Sec. 77, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,600 ft.
California Oil Co.'s No. 8 York, 990 ft. from N and 2,310 ft. from SW of Sec. 10, Blk. 34, H.&T.C. Sur... Drlg. 2,524 ft.
C. C. Duffey et al's No. 1 Llano-Sloan, 1,650 ft. from NW and NE lines of Sec. 34, H.&T.C. Sur. ..... Lost tools; to skid rig.
Eppenauer Drlg. Co.'s No. 1-B Combs, 428 ft. from SE and 1,526 ft. from SW, Blk. 4, J. W. Hollingsworth Sur. ..... Rigged up and S.D.
Farrell & Co.'s 4 Pure-Bennett, 990 ft. from NE and 1,650 ft. from SE, Sec. 16, Blk. 34, H.&T.C. Sur. ..... Cellar.
Farrell & Co.'s No. 3 John B. Bennett, 1,650 ft. from SE line, 330 ft. from NE line of Sec. 16, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,310 ft.
Gulf Prod. Co.'s No. 30 Hutchins, 990 ft. from S line and 330 ft. from W line of Sec. 4, Blk. F, G.M.M. B.&A. Sur. ..... Drlg. 2,499 ft.
Gulf Prod. Co.'s No. 47 O'Brien, 330 ft. from E and 990 ft. from S, Sec. 17, Blk. F, G.M.M.B.&A. Sur. ..... T.D. 2,615 ft.
Gulf Prod. Co.'s No. 48 O'Brien, 990 ft. from E line and 990 ft. from S line of Sec. 17, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 2,010 ft.
Postellio & Caprito's No. 1 Purcell, 330 ft. from NE and 990 ft. from NW, Sec. 17, Blk. 34, H.&T.C. Sur. ..... Rig up.
Recter Oil Co.'s No. 1 Lee Monroe, 660 ft. from NE and 660 ft. from SE of Sec. 62, Blk. 33, H.&T.C. Sur... S.D. 4,661 ft.
Sid Richardson's No. 1 Lee Monroe, beginning at the NE cor. of J. W. Hollingsworth Sur. No. 4, thence 440 ft. SE, thence NE 430 ft., J. W. Jackson Sur. No. 55 ..... Drlg. 800 ft.
Sinclair Prairie Oil Co.'s No. 5 Archenhold, 2,310 ft. from SE and 2,310 ft. from SW of Sec. 23, Blk. 5, H.&T.C. Sur. ..... S.D. 3,060 ft.
Tex-Mex Pet. Corp.'s No. 2-B Shell-Sloan, 2,310 ft. from NE and 990 ft. from NW, Sec. 16, Blk. 5, H.&T.C. Sur. ..... T.D. 2,595 ft.
Western Oil Co.'s No. 1 Cynthia, Monroe et al, 330 ft. from SE and 330 ft. from SW lines of NE 80 acres of Sec. 2, J. V. Borders Sur. ..... S.D. 2,658 ft.

WINKLER COUNTY

Magnolia Pet. Co.'s No. 6 Scarborough, 1,650 ft. from S line and 330 ft. from W line of Sec. 4, Blk. 22-C, P.S.L. Sur. ..... Drlg. 1,650 ft.
Magnolia Pet. Co.'s No. 7 Scarborough, 1,650 ft. from N line and 990 ft. from E line of Sec. 18, Blk. 7, P.S.L. Sur. ..... Drlg. 1,160 ft.
Sid Richardson's No. 3-B W. D. Johnson, 330 ft. from SE and 2,310 ft. from SW, Sec. 22, Blk. 34, H.&T.C. Sur. ..... Location.
Sid Richardson's No. 1-H Scarborough, 2,310 ft. from E line and 650 ft. from S line of Sec. 4, Blk. C-22, P.S.L. Sur. ..... Location.
Sid Richardson's No. 5-A Scarborough, 330 ft. from W and 190 ft. from S, Sec. 1, Blk. 23-C, P.S.L. Sur. ..... Moving in machine.
Richardson's No. 6 Scarborough, 330 ft. from N line and 2,310 ft. from W line, Sec. 18, Blk. 174, P.S.L. Sur. .. Drlg. 2,537 ft.
Richardson's No. 5 Scarborough, 150 ft. from S line and 1,740 ft. from W line of Sec 1, Blk. C-22, P.S.L. Sur. ..... T.D. 3,065 ft.
Sinclair Prairie Oil Co.'s No. 3 W. F. Scarborough, 102 ft. from the N line, 1,650 ft. from E line, Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. 2,386 ft.

Sinton Area Well May Be Better Than Discovery; Five Nearing Completion in North Pettus Field

SAN ANTONIO, Tex., July 9.—During the latter part of the week much interest was centered around Plymouth Oil Co.'s No. 2-A Welder in the Sinton area of San Patricio County as the well was nearing the critical depth and was running about 11 feet higher than its No. 1-A, discovery well for the area, and it was the general opinion that it had better chances of making an oil well than the discovery.

Plymouth's No. 2-A Welder, 1,320 feet due east of the discovery, topped the sand at 5,427 feet and on a drill stem test from 5,427-29 feet in eight minutes built up 600 pounds pressure and showed 40 feet of gasoline. At last report it was coring at 5,440 feet. The discovery well, No. 1-A Welder, made an estimated 40,000,000 cubic feet of wet gas and sprayed some high gravity oil from 5,415-18 feet. Plymouth Oil Co.'s No. 1-B Welder, 3,500 feet northwest of the discovery, was drilling at 3,815 feet and should be down to the sand during the coming week. Petrol Corp.'s No. 1 R. H. Welder, in the De la Garza Survey and west of the discovery, was spudding.

North Pettus Area

The North Pettus area, which includes parts of Bee, Goliad and Karnes Counties, marked up one completion during the past week, had five wells on top of the sand which will probably be completed during the early part of the coming week, and one well had come in for a good producer but went dead and was endeavoring to revive. Sun Oil Co.'s No. 1 Scarborough, 660 feet southwest of Weinert's No. 1 Smith producer, was completed for 250 bbls. daily with a total depth of 3,654 feet. It topped the Pettus sand at 3,647 feet. Magnolia Petroleum Co.'s No. 2 Scarborough, an east offset to Houston Oil Co.'s No. 1-B Neihaus, came in good for 268 bbls. daily at 3,641 feet but went dead. At last report operators were trying to bring the well back on production. It had sand from 3,634-41 feet. Houston Oil Co.'s No. 1-A Neihaus was waiting for cement at 3,647 feet. Houston's No. 2-B Neihaus set 7-inch casing at 3,638 feet and was waiting on cement with a total depth of 3,647 feet. Diamond Half Oil Co.'s No. 1 Runge State Bank, about a mile northeast of the Weinert Smith well, had sand at 3,737-44 feet and at last report was preparing to test. Magnolia Petroleum Co.'s No. 4 Porter, an offset to Sun's No. 1 Scarborough, was waiting for cement at 3,666 feet. Weinert's No. 2 Grady Smith, 660 feet northeast of No. 1 well, was drilling the Pettus sand at 3,686 feet. United Production Co.'s No. 45 Ray has been completed as a dry gas well and showed 725 pounds casing pressure and 560 pounds tubing pressure through one-fourth-inch choke after plugging back to 3,674 feet. The well was formerly drilled to 4,552 feet where it tested salt water.

About 4 miles north of the Pettus Field and in Karnes County, G. A. Ray's No. 2 Radford in the M. Nichols Survey was drilling at 3,613 feet. It had salt water sand at 3,585 feet.

Frio County

About 4 miles southwest of Pearsall in Frio County, Amerada Petroleum Corp.'s No. 2 Halff & Oppenheimer was still swabbing a little oil and sulphur water with a total depth of 6,098 feet. Operators plan to deepen the well and it is rumored it might be taken to the Glenrose. The well topped the Taylor at 4,850 feet, had top of Austin at 5,200 feet, drilled Buda at 5,710 feet and encountered Del Rio at 5,810 feet, had top of Georgetown at 5,900 feet and went into the Edwards at 5,990 feet. Surface elevation is 536 feet.

In Frio County Humble Oil & Refining Co. is reported to have leased the H. B. Barnhart 2,400-acre tract centering around the Morales Survey No. 1414. It is also reported to have taken 640 acres out of the south half of the Morales Survey No. 1413. Gulf Production Co. is reported to have leased around 2,000 acres near Humble's block; Shell is reported to have taken about 300 acres; Simms Oil Co. about 500 acres, and F. B. Lefevre approximately 500 acres.

Guadalupe County

Near Kingsbury and in the northeastern part of Guadalupe County, Hollifield's No. 1 Bailey proved rather disappointing during the past week when it showed sulphur water on a test. The well had Edwards lime with a good saturation from 2,190-93 feet. It was reamed to 2,180 feet and on a 30-minute drill stem test showed 340 feet of drilling fluid and sulphur water with a little gas and a trace of oil. It will probably be abandoned. West of the Darst Creek Field, H. H. Weinert has built up a block of approximately 2,000 acres for a Trinity sand test.

Maverick County

In Maverick County, Humble Oil & Refining Co. is reported to have purchased from Fred Bouvier a lease on 150,275 acres of the Chitham ranch.

Starr County

About a mile south of production in the Las Cuevitas Pool of Starr County, Sun Oil Co.'s No. 6-C Guerra and others, has been abandoned as dry with total depth of 3,450 feet. It drilled the Las Cuevitas sand which was dry at 2,023 feet. Sun's No. 1-E Guerra & Sons, north of production, was drilling 3,560 feet and showing nothing of importance. It topped the Last Cuevitas sand dry at 2,560 feet, which is about 200 feet lower compared to the wells in the field.

Construction of a field storage tank with a capacity of 118,000 bbls. was completed this week in the Las Cuevitas Pool and the test run from the nine Sun Company wells is expected to get under way during the early part of the week. This is to be a 30-day open flow test.

About 17 miles north of Roma, in Starr County, J. G. Buell's No. 1 V. C. Guerra has been abandoned as dry with total depth of 3,001 feet. Younkins' No. 1 Kelsey Bass was drilling at 530 feet. Circle Oil Co.'s No. 1 Block in the northwest quarter of Survey 167 was drilling at 250 feet. H. C. Harter's No. 1 Sanchez and others in Porcion 71 in the Roma area was drilling at 220 feet. In the Jeffries Lambeth area, Weekly Oil Corp.'s No. 1 M. M. Garcia was shut down with a total depth of 3,253 feet. Smith-Tex Oil Co.'s No. 1 Starr County Cattle Co. was coring below 2,500 feet.

Bee County

About 5 miles southeast of Beeville in Bee County, Heep Oil Co.'s No. 1 J. C. Wood, in the F. Crane Survey, was coring at 5,200 feet. It tested salt water at 4,300 feet. Phillips Petroleum Co.'s No. 1 Morgan, in the Eyles Survey, was drilling below 6,500 feet. About 7 miles northwest of Pettus, Dash Production Co.'s No. 2 Ruhman, in the Hodge Survey, was waiting orders with a total depth of 3,116 feet. On a drill stem test from 3,078-3-116 feet it showed salt water with a show of oil. About 2 miles southwest of Tuleta, Dirks Bros.' No. 1 Mrs. William Rapp, in the Uranga Grant, was drilling at 2,450 feet.

Nueces County

Near Robstown in Nueces County, Diadem Oil Co.'s No. 1 J. C. Mayo, in Section 23, has been abandoned with a total depth of 5,816 feet in shale. Benedum & Trees' No. 1 Bickham, in the J. Farras Survey, was abandoned as dry at 5,997 feet. Texas Seaboard's No. 1 Chapman, about 12 miles southwest of Corpus Christi, was abandoned as dry at 5,506 feet. Houston Oil Co.'s No. 2 W. W. Walton was running 7-inch casing with a total depth of 4,867 feet. It cored hard oil sand from 4,864-67 feet with a good show of oil and on a 14-minute drill stem test showed 14 fourbles of oil, one fourble of mud with no water.

Willacy County

In Willacy County, W. W. Silk's No. 1 Stillman, on a 7,000-acre block in Lot 16, Block 30 of the Santa Rosa Subdivision, Share 44, was spudding. This is to be a 5,000-foot test and will be watched with much interest. Sun Oil Co. holds leases on 10,000 acres on the north end of the same ranch.

Bandera County

In Bandera County, Peerless Oil & Gas Co.'s No. 1 Garrison, about 8 miles southwest of Medina, was waiting for cement after setting 500 feet of 15½-inch casing.

Bexar County

In Bexar County, Medina Oil Co.'s No. 1 G. W. Hendrickson, in the C. A. Yoacum Survey and about 13 miles southwest of San Antonio, has been abandoned as dry at 893 feet.

Caldwell County

In the D. Cooper Survey, Caldwell County, S. S. Cargill's No. 2 Damerau, was waiting on cement with a total depth of 2,262 feet. It topped the Edwards lime with a show of oil at 2,260 feet. Wagner-Daniels & Stierene's No. 1 S. M. Blackwell, about 7 miles southeast of Lockhart, was drilling at 2,005 feet.

Dewitt County

Keystone Royalties' No. 1 L. T. Burns, in the I. G. Belcher Survey, Dewitt County, was drilling at 2,450 feet.

Jim Wells County

About three-quarters of a mile southwest of Sandia and in the northern part of Jim Wells County, Putnam & Bode's No. 1 McCarley, in the Wallace D. Wade Ranch, has been abandoned as dry at 4,284 feet.

Live Oak County

In Live Oak County, Witherspoon Oil Co.'s No. 2 Marbach, in the E. Jardin Survey, has been abandoned at 1,504 feet. G. C. Potter's No. 1 Jacobs, about 2 miles east of the Jacob Pool, was coring at 1,240 feet. About 2 miles southwest of Whitsett, Unity Petroleum Co.'s No. 1 Terrill, in the C. Scanlan Survey, was drilling at 700 feet.

Webb County

In the East Cole Field, Webb County, J. D. Manley's No. 1 S. Benavides, in the M. Arispe Grant, has been abandoned at 2,860 feet. Fidelity Exploration Co.'s No. 1 Soldivar, in Survey No. 657, was drilling at 1,270 feet in the Cook Mountain.

McLean Petroleum Co.'s No. 1 Robert Streit, in the J. West Survey, topped the chalk at 1,900 feet and has been abandoned at 1,925 feet.

Zapata County

About 4 miles northwest of Mirando Valley in Zapata County, O. W. Killam's No. 1 Bruni, in Survey No. 13, was abandoned at 2,400 feet.

Wildcat Operations in Southwest Texas

Week Ending July 7

BANDERA COUNTY

Parkford et al's No. 1 Mrs. R. L. Duke, G.H.&S.A. Sur., Sec. 7.
Material.

Peerless O. & G. Co.'s No. 1 Garrison Sur. No. 506, 1,500 ft. from N and 2,700 ft. from E lines of Sur. (8 mi. SW of Medina).
Set 500 ft. of 15½-in. csg.

BASTROP COUNTY

Marts & Beavens' No. 1 Davenport, 2,600 ft. NW line, 3,550 ft. SW line in Thos. Garratson Sur., 1 mile SE of Elgin.
T.D. 2,315 ft.; S.D.

N. Pennett's No. 1 Carroll, 330 ft. NW line, 990 ft. SW line of 40-ac. tract in Mays Sur.
S.O. 2,238-42 ft.; T.D. 2,260 ft.; shut in.

BEE COUNTY

Caesar Oil Co.'s No. 1 ullin Est., F. Lewis Sur.
R gging up.

Dash Prod. Co.'s No. 2 Ruhman, 888 ft. from SW line and 2,113 ft. from SE line of Hodge Sur.
T.D. 3,116 ft.; abd.

R. A. Davids' No. 1 Baptist Church, center of 3-ac. church lot, or 150 ft. E of N line of Pullin est., 27-ac. tract in F. Lewis Sur.
Rigging up.

Dirk Bros.' No. 1 Mrs. Wm. Rapp, 990 ft. E line, 1,650 ft. S line of SE Sec. 5, Uranga grant, 3,800 ft. NE of Skinner's No. 1.
Drlg. 2,450 ft.

Falvey et al's No. 1 Gardner, 330 ft. out of NE cor. of Gardner tract.
Loca ion.

R. H. Feltner et al's No. 1 Theis, 2,376 ft. E line, 990 ft. S line of 1.034-ac. tract, or 3,640 ft. E line and 3,070 ft. N line of Caetno Rivers Sur.
Spudded and S.D.; moving in heavy rig.

Heep Oil Co.'s No. 1 J. C. Wood, 466 ft. from N and E lines of F. Crane Sur.
Coring 5,200 ft.

Howeth & Sivigers' No. 1 Marie Schramn est., 2,332 ft. from W line, 466 ft. from N line of the Schramn 150-ac. tract in Hugh O'Brien Sur., 4,400-ac. block.
Drlg. 1,500 ft.

Elbert Jeanes' No. 1 G. L. Courtney, 1,600 ft. from E line, 330 ft. from S line of tract.
G. A. Kerr Sur., 1½ miles NE of Pettus.
Rigging up and S.D.

Magnolia Pe.. Co.'s No. 3 Scarborough, E offset to Houston's No. 1-B Neihaus.
T.D. 3,641 ft.; sand 3,634-41 ft.; est. 300 bbls.; went dead.

McLain et al's No. 2 Laura Weiss, B.&B. Sur., 660 ft. E of No. 1.
T.D. 100 ft.; prep. to start up.

Phillips Pet. Co.'s No. 1 Morgan, 4,950 ft. from W, 3,270 ft. from N lines of 13,930-ac. tract, Eyles Sur.
Drlg. 6,500 ft.

Worth Oil Co.'s No. 1 Rutledge, 1,000 ft. from N line and 300 ft. from E line of A. Hadley Sur.
Spud.

BEXAR COUNTY

Berry-Hays et al's No. 1 City, 450 ft. N line and 750 ft. E line of 175-ac. tract.
T.D. 946 ft.; fishing.

A. M. Blume's No. 1 H. A. Ridder, E offset to Blune's No. 2 Ridder, J. M. Barrera Sur.
Derrick blew down.

A. M. Blume's No. 2 Louis Ridder, approximately 2,350 ft. N of R.R., 700 ft. E of W line of J. M. Barrera Sur. No. 58.
T.D. 1,630 ft.; P.B. to test 1,430 f...; W.O.C.

A. M. Blume's No. 3 Ridder, 2,500 ft. S line, 3,500 ft. W line of SW cor. of Munroe Sur., in J. M. Barrera Sur.
Drlg. 385 ft.

J. G. Bowles' No. 1 Dillon, 750 ft. from road on E and 4,750 ft. from S line of survey, Manuel Delund Sur.
Drlg. 1,152 ft.

Dingman & Russell's No. 1 R. J. Coffey, 1,228 ft. from SE line, 1,086 ft. from SW line of 420-acre tract in Rodriguez Sur.
T.D. 1,326 ft.; P.B. 1,017 ft.; S.D.

Keiffer et al's No. 1 Ruiz, SE cor. of 82-acre tract in F. Rowland Sur. No. 48.
T.D. 1,715 ft.; abd.

S. E. Gan t's No. 1 A. B. Stephen, 2,650 ft. from SW line, 740 ft. from SE line of C. W. Hays Sur.
T.D. 452 ft.; abd.

Thos. Gorton's No. 1 Edward Jackel, 600 ft. from N line, 800 ft. from E line of tract in J. Ward Sur.
T.D. 500 ft.; S.D.

(Continued on Next Page)

Southwest Texas Wildcats

(Continued from Preceding Page)

George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6.
T.D. 1,425 ft.; abd.

J. W. Johnson's No. 1 Willow Springs, 150 ft. from N and W lines of lease in B. Munos Sur. No. 151.
T.D. 1,940 ft.; abd.
some oil.

Medina Oil Co.'s No. 1 G. W. Hendrickson, 300 ft. W line, 700 ft. S line of 103-ac. tract, or 1,100 ft. from W line and 13,150 ft. S line of survey, in C. A. Yoakum Sur.
T.D. 893 ft.; abd.

Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodriguez Sur.
T.D. 1,315 ft.; standing.

Schneider & Reese's No. 1 Claussen.
S.D. 1,676 ft.; abd.

C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant.
T.D. 982 ft.: show of oil and gas from 968-82 ft.; W.O.C.

CALDWELL COUNTY

S. S. Cargill's No. 2 Damereau, 150 ft. from W line, 450 ft. from N line of D. Cooper Sur.
Top Edwards 2,260 ft.; S.O.; T.D. 2,262 ft.

Wilford Keen et al's No. 1 Wm. Ewalk, 150 ft. from E line and 150 ft. from N line of 126-ac. trac., or 3,650 ft. from N and 1,300 ft. from E lines of Jas. George Sur. (3¼ mi. from Lockhart).
T.D. 2,228 ft.; S.D.

M. C. Moore's No. 1 Lackey, 440 ft. NW line, 150 ft. NE line of Lackey's 193.75-ac. tract, or 450 ft. NW line and 2,600 ft. NE line of Damon Sur.
T.D. 825 ft.; S.D.

Wagner, Daniels & Stierene's No. 1 S. M. Blackwell, 4,350 ft. SW line, 1,500 ft. SE line of tract and survey in John Roe Sur.
Drlg. shale 2,000 ft.

DEWITT COUNTY

Keystone Royalties' No. 1 L. T. Burns, 1,100 ft. from W and 600 ft. from S line of 303-ac. tract in L. G. Belcher Sur.
Drlg. 2,460 ft.

DUVAL COUNTY

Beer & Lewis' No. 1 Peters, Sur. 27.
Spud and S.D.

Buffalo-Texas Drlg. Synd., Inc.'s No. 1 Escobar, 700 varas from W line, 1,000 varas from N line of 930-ac. tract in Francisco grant.
Drlg. shale 3,217 ft.

Dr. J. H. Butte et al's No. 1 Tom Graham, 1,122 ft. N line, 3,375 ft. W line, Sec. 672, E line of county and N line of San Diego. Location.

Chiquita's No. 2 Richardson, 250 ft. N and W line of survey and block in Blk. 3, Sur. No. 3.
Drlg. 1,716 ft.

Continental Oil Co.'s No. 2-A Clara, Driscoll Sevier, 3,675 ft. S and 1,000 ft. from E line of Sec. 448.
Drlg. 1,475 ft.

Cox & Hamon's No. 1 State.
S.D. 400 ft.

Tom Graham and Texon Royalty's No. 1 Parr, 2,000 ft. from N line, 2,500 ft. from E line of Pointenant Sur. No. 185.
Drilling.

Frank Gravis' No. 1 Hubbard, 960 ft. S line, 330 ft. W line of B.S.&F. Sur. No. 83.
Derrick.

K. F. Hasselmann's No. 1 Moody, 330 ft. N and W lines of S ½ SW of Sur. 60.
T.D. 2,379 ft.; comp. 15 bbls. daily.

Luse & Cloyes' No. 2 Hagist, 650 ft. W of No. 1 Hagist, Sec. 265.
Drlg. 1,540 ft.

W. C. McBride's No. 1 Hagist, 330 ft. from N and E lines of SE 80 ac. of Sec. 1.
Rigging up.

O'Byrne & Jennings' No. 1 Benavides, 3,734 ft. from S cor. and 330 ft. from W line at right angles, Sur. 355.
Spud. and S.D.

Sun Oil Co.'s No. 1 Moreno, 330 ft. from E line and 2,000 ft. from S line of NW cor. of H.&W. Sur. 537, in Sec. 540 (5 mi. S of San Diego).
T.D. 5,513 ft.; reaming 5,275 ft.

Witherspoon et al's No. 1, Richardson Sur. No. 5.
T.D. 1,005 ft.; S.D.

Louis Yeager's No. 1 Yeager, 694 ft. from W line, 1,527 ft. from S line of Sur. No. 38.
T.D. 865 ft.; S.D.

FRIO COUNTY

Amerada Pet. Co.'s No. 2 Halff & Oppenheimer, begin at most easterly N cor. of John H. Gibson Sur. No. 16, thence SE along NE line of Sur. 2,100 ft., thence SW at right angles 800 ft. (4 mi. SW of Pearsall).
T.D. 6,098 ft.; bailing little oil and sulphur wtr.

GILLESPIE COUNTY

Dorre et al's No. 3 Lindig.
T.D. 263 ft.; S.D.

Powers et al's No. 2 Lindig, 12,700 ft. from S line, 1,333 ft. from W line of Maria Josephine Guerrera Sur.
Location.

GOLIAD COUNTY

Duval Oil Corp.'s No. 1 Lucy Borden, 330 ft. NE cor. of 124-ac. tract in Alberto Guitteres Sur., 1½ miles W of Charco.
Location.

Jane O'l Co.'s No. 2 Grady Smith, 990 ft. SW lines of B.&B. Sur., 330 ft. SE line of Magnolia's 504-ac. tract.
Drlg. 2,483 ft.

Jim Kendricks & J. M. O'Byrne et al's No. 1 Runge State Bank, 330 ft. from NW line and 330 ft. from SW line of 142-acre tract.
T.D. 3,744 ft.; prep. to test.

H. H. Weinert's No. 2 Grady Smith, 660 ft. NE of No. 1, B.&B. Sur.
Drlg. Pettus sand 3,686 ft.

Oceanic Pet. Co.'s No. 1 Fromme, 1,500 ft. S line, 1,200 ft. W line of 62-ac. tract in P. D. Dexter Sur., 10 miles N of Goliad.
Derrick.

Sun Oil Co.'s No. 1 Scarborough, 660 ft. SW of Weinert's No. 1 Smith.
Top sand 3,647 ft.; T.D. 3,654 ft.; comp. 250 bbls.

GONZALES COUNTY

Weinert et al's No. 1 Aug. Kallis, in Aug. Kallis' 150-ac. tract, just over Guadalupe County line in Gonzales County, 2,450 ft. N of river and in center of tract in Ira Mash Sur.
Location.

GUADALUPE COUNTY

Diamond Half Oil Co.'s No. 1 R. A. Ball, 3,000 ft. NE line and 3,500 ft. SE line of L. H. Peters Sur., 8 miles SW of Pequin.
Drlg. 180 ft.

Hollifield's No. 1 Bailey, near Kingsbury.
T.D. 2,193 ft.; waiting orders.

HIDALGO COUNTY

D. D. Oil Co.'s No. 1 Mrs. L. George, 330 ft. from N and W lines of 40-ac. tract in Share 13, Porcion 41.
Location.

Davis & Harrison's No. 1 Lula George, 300 ft. from S and 700 ft. from E lines of Tract 12, Porcion 41, Ancient Jurisdiction of Reynosa.
T.D. 3,260 ft.; S.D.

Rogers et al's No. 1 Fairbanks, 7 miles S of McAllen.
Drlg. 160 ft.; no report.

Otto Woods' No. 1 John Lawrence, 530 ft. from W, 300 ft. from N line of Tract 274, Porcion 39, Ancient Jurdiction of Reynosa.
T.D. 2,062 f..; S.D.

Union Sulphur Co.'s No. 1 American Rio Grande L. & I. Co., 400 ft. S and W of NE cor. of Lot 229, Blk. 59 (½ mi. N of Mercedes).
Sandy shale and lime 6,421 ft.; S.D.

JIM HOGG COUNTY

Santa Clara's No. 1 W. W. Jones, 6,100 ft. from N line, 1,700 ft. from W line of Share 27, cor. of Blk. No. 111, in the Hino Jose grant.
T.D. 40 ft.; W.O.C.

W. G. French's No. 1 T. T. French, 5,700 ft. S line, 9,260 ft. W line of grant, or cor. of Blks. 67 and 68 in the Los Moritos grant.
Rigging up.

Sun Oil Co.'s No. 1-E Guerra & Son, 9,590 ft. N of county line along the E line of W 2,000-ac. tract and 660 ft. at R/A.
Drlg. 3,560 ft.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred.
Rigging up.

Putnam and Bode's No. 1 McCarley, 600 ft. from SE line and 1,500 ft. from NE line of 300-ac. tract, Blk. A, of W. H. Bode Subdivision of Wallace D. Wade Ranch.
T.D. 4,284 ft.; abd.

Magnolia Pet. Co.'s No. 4 Seeligson, 1,320 ft. N line, 750 ft. W line of Sec. 216.
Drlg. 3,050 ft.; no report.

KARNES COUNTY

Auld & Ricker's No. 1 Schaefer, 1,200 ft. from S line, 300 ft. from W line of N. Schaefer 447.5-ac. tract in A. W. Belvins Sur.
Location.

R. E. Coveaux et al's No. 1 Tom Campbell, 330 ft. S and E cor. of farm and survey, J. R. Backer Sur., 12½ miles SW of Falls City.
Rigging up.

Harrison Oil Co.'s No. 1 Martin Schaefer, 330 ft. from SW line, 1,200 ft. from SE line of L.P.I.A.&M. Sur.
Moving in rig.

Houston Oil Co.'s No. 1-A Niehaus, N offset to No. 1 Niehaus.
T.D. 3,647 ft.; W.O.C.

Houston Oil Co.'s No. 2-B Niehaus, 893 ft. from E line and 260 ft. from N line of lease.
T.D. 3,647 ft.; set 7-in. at 3,638 ft.; W.O.C.

G. A. Ray's No. 2 Radford, 4 miles N of Pettus Field.
Drlg. 3,613 ft.

C. L. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur.
T.D. 1,790 ft.; standing; may deepen to Yegua.

Martin's No. 1 Houston, Thomas Leople Sur. No. 761.
Top black shale 1,028 ft.; T.D. 1,985 ft.; to deepen.

KENDALL COUNTY

Pierce & Garvey's No. 2 D. Werner, 1,140 ft. E, 420 ft. S line of J. F. Perry Sur., 6½ miles N of Kendalia.
T.D. 400 ft.; S.D.

KERR COUNTY

Edmiston Oil Corp.'s No. 1 Whitworth, 1,160 ft. from S line and 1,332 ft. from E line of Sec. 1,439 of the H.E.&W.T. Sur.
Drlg. 675 ft.

Jeff Love and Eastland Oil Co.'s No. 5-E Jeff Love, 1,500 ft. SE of No. 1 and 1,580 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
Drlg. 1,030 ft.

G. F. Schreiner's No. 3 Love, 1,420 ft. from W line, 1,260 ft. from S line of Sur. No. 1,594.
Location.

KLEBERG COUNTY

J. S. Brown's No. 1 Antone Dietz, Sec. 7, Hotch estate.
T.D. 2,845 ft.; S.D.

Harry Clark's No. 1 V. J. Kivlin, 360 ft. from E line, 400 ft. from S line of Sec. 39, Blk. 8, Kleberg Town & Improvement Co. Sur.
T.D. 2,350 ft.; D.S. test 2,315-19 ft.; four joints mud, oil and sand; S.D.

LEE COUNTY

Jas. E. Pederson's No. 1 Turner, David Hudson Sur.
Drlg. shale 4,320 ft.

H. A. Sherlack's No. 1 Otto, 736 ft. from NW line, 1,310 ft. from NE line of 57.5-ac. tract in Thomas Morrow Sur.
T.D. 1,495 ft.; S.D.

LIVE OAK COUNTY

Houston Oil Co.'s No. 25 Cartwright, J. Sandman Sur.
T.D. 5,258 ft.; W.O.C.

G. C. Potter's No. 1 Jacobs, 1,763 ft. N line, 2,445 ft. E line, Sec. 1, G.H.&H. Sur., 2½ miles E of Jacob Pool.
Coring 1,240 ft.

Unity Pet. Co.'s No. 1 Terrill, begin at NE cor. of Reifert's 142-ac. tract, which is Blk. 7, go S along W line of survey 2,000 ft., thence E at R/A 316 ft. in C. Scanlon Sur.
Drlg. 700 ft.

Witherspoon Oil Co.'s No. 2 H. Clements, 100 ft. S of No. 1 junked hole, Elis. Jordan Sur.
Cemented 7-in. csg. at 615 ft.; W.O.C.

Witherspoon Oil Co.'s No. 2 Marbach, 1,290 ft. from S line, 600 ft. from W line of Blk. 16, E. Jordan Sur.
T.D. 1,504 ft.; abd.

Ike Taylor's No. 2 Griffith, 1,200 ft. from E line and 1,151 ft. from S line of lease in Tract 5, D. Osborne Sur.
Rigging up.

MAVERICK COUNTY

Stroman & Wright's No. 2 Debona, 440 varas E line, 280 varas S line of Sur. No. 1.
T.D. 790 ft.; S.D.

Ollie Wright's No. 1 L. Little, 500 ft. from N line, 3,800 f.. from E line of Potter Sur. No. 65 (10 mi. N of Eagle Pass).
Drlg. 720 ft.

McMULLEN COUNTY

Buford & Golightly's No. 1 Masuer, 760 ft. N line and 840 ft. E line of Sec. 22, H.T.&B. Sur., 5 miles W of Wentz.
T.D. 1,010 ft.; S.D.

Hall & Howard's No. 2 Lark, Scrugham Sur.
T.D. 1,074 ft.; testing.

Jane Oil Co.'s No. 2 Lark, 1,320 ft. N line of Survey and 150 ft. E of No. 1 in Seeligham Sur.
T.D. 1,022 ft.; testing.

Don Long's No. 1 Nueces Land & Livestock Co., Sec. 111.
Location.

C. C. Shumway's No. 6 Shiner, 2,310 ft. from N line and 330 ft. from E line of NE ¼ of Sec. 62 of the Shumway Subdivision of the Shiner Ranch.
Coring 2,069 ft.

Texlo Oil Co.'s No. 3 Jacobs, 5,293 ft. NE line and 330 ft. SE line of Benham Sur.
T.D. 937 ft.; S.D.

MEDINA COUNTY

Scoggins & Sanders' No. 1 L. W. Burrell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 395.
Drlg. 1,368 ft.

MENARD COUNTY

Duffey-Chedster's No. 1 Mears Wilkinson, 660 ft. S line and 660 ft. W line of T.&N.O. Sur., Sec. 23, Abstract 756.
Rigging up and S.D.

NUECES COUNTY

Benedum & Trees' No. 1 Bickham, 3,050 ft. NE line, 375 ft. SE line of 200-ac. tract in Farras Sur.
T.D. 5,997 ft.; abd.

Clymore Prod., Inc.'s No. 4-A Ingram, 660 f.. S and E lines of Lot 5, Sec. 6, Peters Sub. No. 2.
Drlg. 2,300 ft.

Diadem Oil Co.'s No. 1 J. C. Mayo, 1,000 ft. along line from SE cor. in NW direction, thence due N 300 ft. (near Robstown), Sec. 23.
T.D. 5,816 ft.; abd.

Holliday et al's No. 1 Hutchins, 330 ft. from N line, 94 ft. from W line of 62-ac. lease.
Drlg. 1,754 ft.

Houston Oil Co.'s No. 2 W. W. Walton, 1,960 ft. from S line, 425 ft. from W line of Walton's 432-ac. tract.
T.D. 4,867 ft.; running 7-in. csg.

Midland Oil Co.'s No. 1 S. M. Noakes, start where road crosses river, thence 1,400 ft. S, thence 300 ft. W at R/A, in Gregoria Farias grant.
Spudded.

South Mineral Corp.'s No. 2 Ocher, 2,569 ft. from S line, 417 ft. from E line of 95-ac. tract in Sur. 418, Sec. 8.
Drlg. 3,345 ft.

Stanolind O. & G. Co.'s No. 2 Stratton, 1,980 ft. from N line, 660 ft. from W line of NE Sec. 13, DeAbajo grant.
Rigging up.

Texas Seaboard's No. 1 Chapman, 1,320 ft. N and E lines of Sec. 40, 12 miles SW of Corpus Christi.
T.D. 5,506 ft.; abd.

Texas Seaboard's No. 1 Ed Jurica, 150 ft. from NE line, 500 ft. from W line of Blk. 32.
Location.

REAL COUNTY

H. J. Heartwell et al's No. 2 L. J. Haby, 694 ft. from W line and 2,153 ft. from S line of A.B.&M. Sur. No. 175.
Drlg. 2,800 ft.

SAN PATRICIO COUNTY

Atkins-O'Neil and Continental's No. 2 Welder, 466 ft. from S and E lines of lease, Blk. 2, two locations S of Circle W Oil Co.'s No. 1 Welder.
Drlg. 835 ft.

Carpenter et al's No. 1 Sadler, 300 ft. each way out of SE cor. Blk. 1, Sec. 32, T. Peres Sur.
Drlg. 5,033 ft.

Continental and Atkins & O'Neil's No. 1-A Welder, 584 ft. from NE line, 466 ft. from SE line of Blk. 2, Hart Sur.
Drlg. 2,980 ft.

Heep Oil Co.'s No. 1 R. H. Welder, 300 ft. from N line, 467 ft. from W line of Welder 5.46-ac. tract.
Rigging up.

Heep Oil Corp's No. 2 R. Welder, 466 ft. from S line, 2,000 ft. from E line of Adeline Welder tract in Victor Loupsey Sur.
Rigging up.

Jane Oil Co.'s No. 1 Ragsdale Bros., Sec. 58, Geo. H. Paul Subd.
Rigging up.

Josey Oil Co.'s No. 1 Welder, 1,500 ft. NW of Adkins & O'Neil and Continental Oil Co.'s No. 1 discovery well.
T.D. 6,017 ft.; P.B. to 5,100 ft.; drilled to 5,373 ft.; trying to bring in.

J. C. Means' No. 1 C. C. Smith, 990 ft. from N line, 330 ft. from W line of survey, J. W. Pays Sur., 1¼ miles NE of Angelita.
Derrick.

Petrol Corp.'s No. 1 R. H. Welder, 467 ft. from S and E lines of 300-ac. tract.
Spud.

Plymouth Oil Co.'s No. 1-B Welder, 3,500 ft. NW of No. 1-A.
Drlg. 3,300 ft.

Plymouth Oil Co.'s No. 3-A Welder, 1,320 ft. due E of No. 1-A.
Coring 5,440 ft.

Stanolind O. & G. Co.'s No. 2 Stratton, 1 mile NE of No. 1, completed 2 yrs. ago.
Location.

STARR COUNTY

Chas. H. Andrews et al's No. 1 A. Guerra, San Jose grant, 330 ft. from N and 150 ft. from E line of Sec. 6 (NE part of county).
T.D. 310 ft.; prep. to start up.

J. B. Buell's No. 1 V. C. Guerra, 330 ft. from NE line and 425 ft. from SE line of Sur. 10.
T.D. 3,001 ft.; abd.

Jim Cloud, Inc.'s No. 1 J. Rodriquez, Share 35, Porcion 88, ancient jurisdiction of Camargo.
S.D. 160 ft.

Cooper & Andrews' No. 1 J. M. Martinez, SW cor. of Sec. 135.
Old well, to deepen; T.D. 3,200 ft.

Dean Bros.' No. 1 M. M. Garcia, 2,150 ft. from S line, 4,600 ft. from W line of Sur. No. 916.
T.D. 800 ft.; prep. to test.

Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344.
T.D. 3,905 ft.; S.D.

H. C. Harter's No. 1 Sanches et al, 530 ft. from N line and 450 ft. from W line of Share 72, Porcion 72.
Drlg. 220 ft.

Merle Gundy's No. 1 Block, NW of Sur. 161.
Drlg. 250 ft.

Mitchell's No. 1 Kelsey-Bass, 150 ft. from N, 1,150 ft. from E lines of Share 5, Porcion 75, ancient jurisdiction of Camargo.
Location.

R. M. Mitchell's No. 1 Seabury, 4,000 ft. from N line, 150 ft. from E line of Share 5, in Per Sur. No. 75.
T.D. 210 ft.; S.D.

Smith-Tex. Oil Co.'s No. 1 Starr County Cattle Co., 150 ft. from NW cor. N. ½ Blk. 24, Porcion 89.
Coring 2,500 ft.

Smith-Tex Oil Co.'s No. 2 Starr County Cattle Co., 150 ft. out of NW cor. of E ½ of Blk. 37, Porcion 89.
Drlg. 1,410 ft.

Sun Oil Co.'s No. 6-C V. C. deGuerra et al, 3,300 ft. from NW and 660 ft. from SW lines of Share 1, Saratoga grant, NW Starr County.
T.D. 3,450 ft.; abd.

Weekly Oil Corp.'s No. 1 M. M. Garcia, 330 f.. from S, 330 ft. from W lines of Blk. 40, Tract 1, in N end of Porcion 99, ancient jurisdiction of Camargo.
T.D. 3,253 ft.; S.D.

E. L. Younkin's No. 1 Kelsey Bass, 330 ft. from S line, 7 ft. from W line of Blk. 19, in Porcion 87.
Drlg. 530 ft.

TRAVIS COUNTY

Humble O. & R. Co.'s No. 1 P. C. Wells, 150 ft. NW line, 150 ft. NE line of farm, 185 ft. SW line and 1,000 ft. SE line of James P. Kemp Sur.
Drlg. 935 ft.

UVALDE COUNTY

Evans & Johnson's No. 1 Farris, J. Hammons Sur.
T.D. 1,093 ft.; S.D.

Lon Evans' No. 1 Stone, 2,566 ft. from N line and 1,473 ft. from E line of survey, 8½ miles NE of Uvalde, Kent. Sur. No. 652.
T.D. 129 ft.; S.D.

Humble Oil & Ref. Co.'s No. 1 R. L. Anderson, 7,450 ft. SW of NE line and 9,100 ft. SE of NW line of J. J. Guerra Sur. (3 mi. NE of Uvalde).
Drlg. lime 2,338 ft.

T. T. Word's No. 2 Trulove, 40 ft. N, 42 deg. E of No. 1.
Drlg. lime 704 ft.

WEBB COUNTY

Fidelity Exploration Co.'s No. 1 Soldivar, 1,300 ft. from E line, 2,600 ft. from N line of Sur. 657.
Drlg. 1,270 ft.

J. D. Manley's No. 1 S. Benavides, 347 ft. NW line, 313 ft. NE line of Blk. 318, Hill Subd. of M. Arispe grant.
T.D. 2,860 ft.; abd.

Shankel et al's No. 1 Soldivar, Sur. 652 of J. V. Borrego grant.
R.U.

Weekley Oil Corp.'s No. 1 R. Salvidor, 1,269 ft. from E line and 243 ft. from N line of Sec. 657, Borrego grant (SE part of county).
T.D. 657 ft.; S.D.

WILLIAMSON COUNTY

McLean Pet. Co.'s No. 1 Robert Streit, 350 ft. from NE line, 350 ft. from SE line of 295-ac. tract in J. West Sur.
T.D. 1,925 ft.; abd.

WILLACY COUNTY

W. W. Silk's No. 1 Stillman, Lot 16, Blk. 36, Santa Rosa Subd., Share 44.
Spud.

ZAPATA COUNTY

J. W. Killam's No. 1 Bruni, 660 ft. SE line, 330 ft. SW line of Blk. 14, Sur. 13, 4 miles NW of Mirando Valley.
T.D. 2,400 ft.; abd.

Approximately 65 per cent of the Natural Gasoline produced in the United States is controlled by companies headquartering in the Tulsa territory. Located throughout the fields of 15 states, plants whose output is owned or controlled by Tulsa companies account for nearly twice as much Natural Gasoline as all other plants combined.

The output of plants as distant as West Virginia and Pennsylvania is marketed by Tulsa companies. It is not difficult to understand why Tulsa is headquarters for the Natural Gasoline Manufacturers Association.

That Natural Gasoline is an important factor in the oil business becomes evident when it is stated that the value of natural gasoline produced in this country represents between 5 and 10 per cent of the value of crude oil produced, and that by volume it represents 10% of the motor fuel produced.

Tulsa's dominance in the Natural Gasoline industry is just another chapter in the story of her position as Oil Capital of the World.

Tulsa's reputation as Oil Capital stands on foundations of FACT as permanent as the Oil Industry itself. The most basic of these facts are as follows:

1. Tulsa lies at the center of the World's activity in oil production. The United States produces 64 per cent of the world's crude, and two-thirds of this is produced in the Mid-Continent, in which Tulsa is the key city. This means that the Mid-Continent, representing less than 1 per cent of the World's land area, produces 40 per cent of the World's crude.

2. As a direct result of the foregoing, Tulsa has the headquarters offices of 40 major oil companies and 550 smaller oil and drilling companies, while 4 other major oil companies have headquarters in the Tulsa area. Tulsa has more oil company headquarters than all other Southwestern centers combined.

3. As a result of both of the foregoing facts, Tulsa has become the hub of the pipe line and refining network of the nation.

Tulsa has logically become headquarters for oil equipment buying. In normal years, purchases made at Tulsa of production, pipe line and refinery equipment total $400,000,000.

These impressive facts have brought many equipment factories, branch offices and warehouses to Tulsa. The oil equipment manufacturer who is not represented here is missing a major opportunity. For information about Tulsa address the Tulsa Chamber of Commerce.

TULSA

Oil Capital of the World

R. B. Morrison's No. 1 Y. and R. Ramirez, 330 ft. from NE l'ne and 330 ft. from SE line of Blk. 4, Share 30, Porcion 19 (5 mi. from Starr County line).
Drlg. 2,200 ft.
H. V. & W. Oil Co.'s No. 1 Cuellar.
T.D. 1,125 ft.; S.D.
Muckelroy's No. 1 Flores, on NE line and 75 ft. from SE line of Lot 2, Blk. 30, Muckelroy Subd. of Porcion No. 37.
Derrick.
Robert Newton's No. 1 O. W. Killam, 150 ft. NW line, 150 ft. SW line, Sec. 186, Blk. 6.
T.D. 1,605 ft.; abd.
Joe Palmer's No. 11 S. Vela, 330 ft. from NE and SE lines of Blk. 170, Share 4 of L. Grillo grant (3 mi. E of Redondo Pool).
Rigging up.

Southwest Texas Proven

Week Ending July 7

NORTH DALE POOL—BASTROP COUNTY

Watt L. Saunders' No. 1 Harris, 1,100 ft. from SW line, 2,830 ft. from NW line of John Maximilian Sur. No. 22.
Top Austin 2,149 ft.; T.D. 2,338 ft.; S.D.

NORTH PETTUS FIELD—BEE COUNTY

Bryce McCandless' No. 1 Beeville Natl Bank, 330 ft. ou. of NW cor. of 142-ac. tract in G. B. Meyers Sur.
Building derrick and moving in rig.
Kemp Oil Co.'s No. 1 Weldon & Lackey, 1,694 ft. from NW line, 1,607 ft. from SW line of 1,000-ac. tract in J. Gomez Sur.
Derrick.
Magnolia Pet. Co.'s No. 4 Porter, 500 ft. W of No. 3 and offset to Sun's No. 1 Scarborough.
T.D. 3,666 ft.; W.O.C.
Magnolia Pet. Co.'s No. 5 Porter, 330 ft. from S line of lease, 425 ft. from No. 4. Location.
Magnolia Pet. Co.'s No. 6 Porter, 330 ft. from S line of lease, 660 ft. E of No. 3. Location.
United Prod. Co.'s No. 45 Ray, 2,332 ft. SW of No. 13 and parallel with N line of tract, thence SE at right angles from N line of tract, W. J. Porter Sur.
T.D. 4,550 ft.; P.B. to 3,675 ft.; comp. as dry gas well; 725 lbs. csg. pressure; 560 lbs. tubing pressure; ¼-in. choke.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur.
T.D. 1,055 ft.; set 6⅝-in. csg.; S.D.
J. F. Harrison's No. 4 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montes Sur.
T.D. 831 ft.; S.D.

VON ORMY POOL—BEXAR COUNTY

Von Ormy Oil Co.'s No. 2 E. B. Carruth, 515 ft. from W line, 1,970 ft. from S line of 160-ac. tract out of 657-ac. tract in F. Rolen Sur.
T.D. 720 ft.; abd.

EAGLE HILL POOL—DUVAL COUNTY

Shasta Oil Co.'s No. 3 J. R. Foster, 990 ft. from N line and 165 ft. from W line of 70-ac. tract in Sec. 206.
Moving in rig.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 27 Paul White, 330 ft. from N line, 1,940 ft. from E line of Sur. 58.
T.D. 2,324 ft.; comp. 100 bbls. on pump.
Humble O. & R. Co.'s No. 28 Paul White, 990 ft. from N line, 2,970 ft. from E line, Sur. 249.
T.D. 2,253 ft.; comp. 150 bbls. day on pump.
Magnolia Pet. Co.'s No. 1 Duval County Ranch, 330 ft. N line and E line of Sur. No. 58.
Drlg. 3,200 ft.
Magnolia Pet. Co.'s No. 5 Duval County Ranch, 330 ft. from S and E lines of NE ¼ of Sur. No. 59.
T.D. 2,262 ft.; comp. 10 bbls. per hr.
Magnolia Pet. Co.'s No. 29 Duval, 1,650 ft. from W line, 2,310 ft. from S line, Sur. 208.
Loca ion.
Reynosa Oil Co.'s No. 7-D Duval Ranch, 330 ft. from N and W lines of S½ S¼ Sec. 362.
W.O.C. 93 ft.
Russ et al's No. 4 E. Riley, 330 ft. from S line, 660 ft. from W line of SW NW Sec. 46.
Derrick.
Southwest Drlg. Co.'s No. 14 Wendt, 330 ft. from S and W lines of N ½ SW, Sur. 43.
T.D. 2,267 ft.; comp. 5 bbls. hr.
Sun Oil Co.'s No. 33 Weiderkehr, 330 ft. from S line, 990 ft. from E line of Sur. No. 359.
Location.
Sun Oil Co.'s No. 62 Weiderkehr, 330 ft. from S and W lines of N ½ SW, Sur. 361.
T.D. 2,637 ft.; reaming.
Sun Oil Co.'s No. 64 Weiderkehr, 1,650 ft. from N and W lines, or 660 ft. S of No. 15.
T.D. 2,270 ft.; comp. 26 bbls. hr.
Texas Co.'s No. 12 Johnson, 990 ft. N, 330 ft. E of SW cor. of lease, Sur. 42.
T.D. 2,274 ft.; comp. 15 bbls. day.

KINGSVILLE POOL—KLEBERG COUNTY

Ryals & Bartlett's No. 1 Flato, 150 ft. from N line, 30 ft. from W line of NE SE Sec. 40, of Kleberg Town & Improvement Co. Sur.
T.D. 985 ft.; S.D.

JACOB POOL—McMULLEN COUNTY

Kennon's No. 3 Lark, 660 ft. from N line, 330 ft. from E line of E½ of Blk. 15, Scrugham Sur.
Drlg. 460 ft.
Loma Oil Co.'s No. 27-A Jacob, 1,320 ft. N. 15 deg. E of No. 22.
Drlg. 900 ft.
Light Stephenson's No. 2 Lark, 150 ft. from S and W lines of Blk. No. 1, Lark Subd.
Rigging up.
Stewart-Smith & Storey's No. 1 L. Jacobs, 3,801 f., due S of Texlo's No. 3 Jacobs, in John Fadden Sur., No. 8.
Coring 320 ft.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 5-C M. Guerra & Son, 1,320 ft. NE of No. 4-C La Sacatosa grant.
Location.

AGUA DULCE—NUECES COUNTY

Camp. et al's No. 2 King, 990 ft. S of N line, 330 ft. W of E line of Sec. 24, R. Garza Sur.
T.D. 6,021 ft.; P.B. to 5,455 ft.
Clymore Proc'ts No. 2-B J. C. Ingram, 660 ft. from E line, 500 ft. from N line, Sec. 9, Blk. 3, Peters Subd.
Location.
Clymore Prod.'s No. 3 Ingram, 660 ft. from E and S lines, Sec. 6, Blk. 6, Peters Subd.
Location.
Garland Clymore's No. 2-A Ollie Purl, 660 ft. from E line and 660 ft. from S line of Blk. 4, Sec. 6, Ross Peters Subd.
T.D. 4,804 ft.; W.O.C.

LOS OLMOS POOL—STARR COUNTY

Los Olmos O. & G. Co.'s No. 57 Kelsey Bass, 150 ft. from N line, 568 ft. from W line of SE SW Sec. 6, Porciones 75, 76 and 77.
T.D. 640 ft.; standing; depth corrected.

JENNINGS POOL—ZAPATA COUNTY

Texas Co.'s No. 47 Jennings, N 20 deg. 30 ft., E 275 ft. and 77 deg. 30 ft., E 95 ft. from No. 46.
Rigging up.
Texas Co.'s No. 48 Jennings.
T.D. 1,238 ft.; comp. 40 bbls. daily.

Warning on Racket on Permits for Prospecting

WASHINGTON, D. C., July 9.—A wildcat money making racket which has sprung up in connection with oil speculation on public lands is about to undergo extensive investigation, the General Land Office of the Department of the Interior reports.

The general land office has been besieged with letters from persons, mostly middle-aged and including many widows, who have been solicited by representatives of various associations who claim that for a fee of $2 or $2.50 per acre these organizations will file for them an application for oil and gas prospecting permits, and that by filing such application there is great opportunity for securing large returns.

The general land office announces that no association or person has been authorized by that office to carry on operations of this character. Authority has not been granted to them to receive filing fees in connection with such applications, and any such payment of money is at the risk of the applicant. The only offices authorized to receive such applications for permits are the various local land offices located in convenient cities in the public land states, and these offices will, upon request, furnish free of charge such information and assistance as is proper.

The only payment to the Federal Government for such a permit, the department says, is by filing fee of $32 for 2,560 acres, the maximum acreage allowed by law. Where the application is for a smaller area the fee is less, the minimum fee being $10. This permit does not convey title to the land but authorizes the permittee to prospect the land for oil and gas by drilling a well or wells thereon. The get-rich-quick associations which are soliciting fees for permits at the rate of $2 per acre would receive a sum of over $5,000 if the victim ordered the maximum of 2,560 acres of probable oil land.

"Securing the permit for lands in an untested region is the simplest and cheapest part of the cost of prospecting the land. The most important part of the cost is the drilling of wells, and to determine where to drill or whether to drill at all, the services of a reliable geologist or oil expert are needed. The drilling of wells and services of the geologist are expensive. If no oil is found, as is very probable in most wildcat areas, the testing money is lost.

"Anyone investing money with the unauthorized associations has no assurance that a permit will be issued, if it is issued he pays far too much for it, and besides stands the chance of prospecting for oil on thoroughly unproductive lands."

ROEBLING Welding Wire is made of special welding steel . . . produced specifically for welding purposes . . . by the thorough-going Roebling custom method.

This steel is made in small heats . . . not on the usual tonnage basis. Only special, pure melting stock is used. Small Roebling open-hearth furnaces are employed . . . permitting very close control of the melt.

You would expect such welding steel to be absolutely uniform in quality and free of non-metallic impurities. And it is. May we send data and samples of electric and gas types?

JOHN A. ROEBLING'S SONS COMPANY
Trenton, N.J. Branches in Principal Cities

Welding Wire Distributors for Oil Fields
FRICK-REID SUPPLY CORPORATION
Pittsburgh, Pa. Tulsa, Okla. Houston, Texas

ROEBLING WELDING WIRE
Custom Made

Stafford County Had Best New Well of Week in Kansas; Fair Sized Wells in Other Counties

By JAMES McINTYRE

With the exception of a 1,600-bbl. completion in the Gates Pool in Stafford County, the week's crop of completed wells in Kansas did not measure up as high as usual. Tom Palmer has a well close to completion in No. 2 Borrell, in the Palmer Pool, Russell County. Same operator's No. 1 Borrell was a 700-bbl. Siliceous lime producer without having been acidized, but it was reported Palmer will acidize the second well on the lease. Sinclair Prairie Oil Co.'s wildcat in Reno County, No. 1 Shepherd, in Section 22-26-9w, was showing oil in the Viola lime. George Dickey, in his No. 2 Nolan, in Section 20-28-1e, Sedgwick County, has a new producer which flowed at the rate of 650 bbls. per day.

Daily Average Production

Estimated daily average production in the week ending July 7 and the preceding week was as follows:

Pool—	Barrels July 7	Barrels June 30
Hollow	10,140	9,873
Ritz-Canton	15,090	14,680
Voshell	6,215	7,160
Johnson	1,955	2,065
Sedgwick County	7,230	7,530
Nickell	7,295	6,250
Ellsworth County	3,163	3,436
Barton County	1,153	1,425
Rice County	13,753	13,899
Reno County	4,337	3,904
Ellis County	555	575
Kingman County	1,566	1,790
Stafford County	1,565	1,130
Russell County	6,920	7,580
Greenwood County	12,250	12,250
Butler County	17,500	17,700
Other pools	19,868	20,083
Total	130,545	131,330

Stafford County

In the Gates Pool, Stafford County, Atlantic Oil Producing Co. completed its No. 2 Gates "B," C SE NE Section 27-21-13w, for 1,615 bbls., 24 hours on the pump. Siliceous lime was had from 3,634-50 feet, total depth; 6-inch casing was set at 3,633 feet.

Stafford County drew two new locations when Stanolind Oil & Gas Co. staked location for No. 2 Brock, NE NW NW Section 6-23-11w, and No. 5 Allen, NE NW SW Section 31-22-11w, the latter being in the Richardson Pool.

Stanolind Oil & Gas Co. is coring at 3,883 feet in No. 1 Denkler, SW NW SW Section 10-22-12w. Kansas City lime was topped at 3,352 feet and oil showings were had at 3,358 feet and 3,595 feet.

Barton County

In the Isern Pool of Barton County, Hilligoss and others have a producer in No. 4 Isern, NE SW NE Section 12-20-11w, tanking 50 bbls. from Siliceous lime, from 3,295-3,310 feet, total depth. The well is now shut in waiting results of acid treatment.

Atlantic Oil Producing Co.'s No. 1 Straub, a wildcat, C SE NW Section 36-18-11w, has 12-inch casing set and is drilling ahead at 2,040 feet.

Rice County

Dietrick and others are shut down in No. 1 Fitzpatrick, C NE NE Section 30-21-8w, after having lowered the 10-inch casing to 1,975 feet, total depth. This is a wildcat test in Rice County.

In the Raymond Pool, Slick-Urschel, Pryor & Lockhart's No. 5 Schurr, NE ES SW Section 21-20-10w, swabbed 4 bbls. per hour from sand at 2,283-85 feet. They have run 8-inch liner to top of the sand and will drill deeper.

Gypsy Oil Co. is bringing in another producer in No. 5 Christopher, NE SE NE Section 6-20-9w, Chase Townsite Pool. Siliceous lime from 3,257-66 feet, total depth, yielded 332 bbls. in 11 hours on the swab.

Aylward & Trees and others' No. 1 Beldon, SW SE NE Section 27-20-7w, a wildcat, has logged the Chat formation from 3,359-80 feet and is drilling ahead at 3,500 feet.

Ira Keith and others' No. 1 Grove, SE NW Section 29-19-9w, a three-quarter mile extension to the north of the Chase Townsite Pool, is standing shut in waiting results of acid treatment. This well flowed and swabbed 100 bbls. in 23 minutes from the Kansas City lime from 2,932-85 feet, total depth.

Another producer was added to the list when Ramsey and others' No. 2 Ira, SE NW NW Section 32-19-9w, came in for 232 bbls. in 24 hours on the pump. Pay was from conglomerate at 3,251-75 feet, total depth.

There was only one new operation in this area started during the week, that being E. F. Jones and others' No. 3 Rose, NW SE SE Section 31-19-9w.

Russell County

Stanolind Oil & Gas Co. abandoned No. 1 Mitchell, SE cor. SW Section 5-15-14w, when it failed to respond to acid treatment in Siliceous lime from 3,285-3,310 feet, total depth.

Lario Oil & Gas Co. has material on the ground for No. 1 Neidenthal, a wildcat in the NE cor. Section 23-14-15w.

Russell County had one abandoned location in Ben Meyers and others' No. 1 Krug, C NE SE Section 27-14-14w.

Kingman County

Skelly Oil Co. completed No. 3 North Ratcliff, SE SW Section 19-27-10w, Cunningham Pool, Kingman County. It made a potential production of 305 bbls. in 24 hours on flow after acid treating Lansing formation from 3,417-92 feet, total depth.

This same company is getting a well in No. 5 F. C. Miles, NW NE Section 30-27-10w. Seven-inch casing was set on top of Lansing formation at 3,390 feet, and at a total depth of 3,473 feet, the well swabbed 94 bbls. in nine hours. It will be acidized.

Harvey County

In the Hollow Pool, Harvey County, Morshead and others' No. 1 Township, CWL NW NW NW Section 20-22-3w, swabbed 23 bbls. per hour after acidizing Hunton lime from 3,463-78 feet. Total depth is 3,504 feet.

Frank Hollow and others are starting a wildcat in NW NE NW Section 8-22-1w. It is No. 1 Swofford, and the rig is up.

McPherson County

In the Voshell Pool, McPherson County, Argo Oil & Gas Co. and Shell Petroleum Corp.'s No. 3 Neufeldt "B," SE SW SE Section 16-21-3w, had Chat from 3,024-77 feet, total depth, which flowed 95 bbls. of oil in three hours with an estimated 2,000,000 feet of gas.

Mabee and Shell Petroleum Corp.'s No. 4 Koehn, NE SW NE Section 33-21-3w, was completed when it potentialed 1,089 bbls. in 24 hours from the Hunton found from 3,442-60 feet, total depth.

Vernon Oil & Gas Co.'s No. 1 Bengston, SE NW NE Section 13-19-3w, Johnson Pool, had a hole full of oil in one hour when the Chat was penetrated to 3,013 feet, total depth. No test on production had been made.

Derby Oil Co. had 500 feet of oil in the hole in No. 1 Griffin, SE SW Section 11-19-2w, an old well being deepened from the Chat, bottomed formerly at 2,960 feet; Viola was at 3,375-82 feet, yielding the new oil. No test had been made.

In the Ritz-Canton sector of McPherson County, Helmerich-Payne and Shell Petroleum Corp.'s No. 3 Russell "C," NW SE NE Section 23-19-2w, is a completion in the Viola from 3,382-88 feet, total depth. It was acidized and pumped 138 bbls.

McPherson County had two new starts this last week in Palmer & Phillips' wildcat location, No. 1 Moddelmog, NE NW Section 8-21-1w, and Boyle & Grossman's No. 4 Smith, NW SE NW Section 29-19-1w, Ritz-Canton Pool.

Reno County

Sinclair Prairie's No. 1 Shepherd, SE NW Section 22-26-9w, a wildcat, is showing oil in the Viola lime and the crew was rigging up standard tools at 4,137 feet, total depth.

Another Reno County wildcat is L. H. Wentz' No. 1 Metcalf, SE NE SW Section 3-24-7w, which has 8-inch casing set at 2,918 feet, and drilling ahead at 3,092 feet.

Burrton Pool had a small producer this week in McPherson Drilling Co.'s No. 2 Stanley, C SE SE Section 35-23-4w, when it pumped only 15 bbls. of oil and 30 bbls. of water from the Chat formation. Total depth was 3,375 feet.

New work in the county included Olson and Shell's No. 2 Duckworth, C NE NE Section 23-23-4w, Burrton Pool, ponds and cellar were dug; and the same operators' No. 3 Goering "B," NW cor. Section 35-23-4w, Burrton Pool, had cellar.

Sedgwick County

George Dickey is getting a nice well in No., 2 Nolan, NE cor. Section 20-28-1e, Sedgwick County. The Chat formation was from 3,058-3,111 feet, total depth, and yielded 328 bbls. in 12 hours with 3,000,000 feet of gas. It has not been completed.

Sedgwick County had one new operation in George Dickey's No. 3 Nolan, NW NE NE Section 20-28-1e. Rig is up.

Butler County

There were no completions in Butler County the past week. Texas Co. staked a location for No. 2 Wagner, SW SE SW Section 29-26-6e.

Cowley County

Barker & Morgan's No. 4 Ferguson, NE SW SW NW Section 23-30-8e, Cowley County, was dry and abandoned at 2,016 feet, total depth, after acid treatment failed to make the lime from 2,005-16 feet respond satisfactorily.

Lewis Production Co. and Gypsy Oil Co. are building rig for No. 2 Pierce, NE SE Section 30-31-6e, and National Refining Co. has staked a location for No. 1 Harader, in the NW SW NW Section 11-34-4e.

Elk County

Denton & Morrow got a small producer in No. 2 Elstun, SW NW NW Section 15-31-10e, Elk County. The Mississippi lime from 1,984-2,043 feet, total depth, produced 20 bbls. of oil and 10 bbls. of water after an acid shot.

Greenwood County

International Oil & Gas Co.'s No. 3 Dunlop was good for 10 bbls. of oil and 10 bbls. of water when it was shot with 40 quarts in the Bartlesville sand from 2,147-67 feet, total depth. It was completed.

First reports consisted of Texas Co.'s No. 6 Johnson, SW NE NE Section 22-24-12e, machine; Cooper and others' No. 2 Erickson, SW SE SW Section 17-24-13e, machine; Young and others' No. 1 Bitler, NE NW NE Section 2-26-10e, drilling at 685 feet.

Wildcat Operations in Kansas

Week Ending July 7

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 George, C SE SW Sec. 12-33-10w.
Rotary rig.

Lario O. & G. Co.'s No. 1 Whelan, C NW Sec. 32-31-11w.
Drlg. 2,640 ft.

BARTON COUNTY

Atlantic O. P. Co.'s No. 1 Straub, C SE NW Sec. 36-18-11w.
Drlg. 2,040 ft.

Harris & Haun and J. Brook's No. 1 Dietz, NE SW Sec. 21-16-15w.
Rigging up.

National Ref. Co.'s No. 1 Ingersoll, C NW NE Sec. 2-19-13w.
T.D. 1,810 ft.; fishing.

Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w. (O.W.D.D.).
T.D. 3,706 ft.; P.B. 3,255 ft.; acidized; pump 6 bbls. oil, 300 bbls. wtr.; abd.

Walter Shearen et al's No. 1 Kempler, SE NE NE Sec. 31-18-11w.
S.D. 300 ft.

BUTLER COUNTY

DeGenther et al's No. 1 Marnane, NW cor. Sec. 29-26-3.
Rig abd.

L. C. Hay et al's No. 1-A Bolin, SE SW SE Sec. 36-26-6.
K.C. lime 2,159-76 ft.; acidized; pump 20 bbls.; S.D.

Tom Palmer et al's No. 1 Thompson, NE SW Sec. 2-24-3.
Drlg. 1,950 ft.

CLAY COUNTY

Seidel Bros.' No. 1 Youkers, C S½ SE NW Sec. 21-9-4.
Drlg. 690 ft.

Sievers et al's No. 1 Myers, NE NW NW Sec. 4-10-4.
T.D. 1,872 ft.; dry and abd.

COWLEY COUNTY

National Ref. Co.'s No. 1 Harader, NW SW NW Sec. 11-34-4.
Location.

Roth & Farout's No. 1 Fox, SE SW Sec. 35-30-7.
T.D. 840 ft.; fishing.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
Drlg. 1,770 ft.

ELK COUNTY

Diller O. & G. Co.'s No. 1-A Keys, C E½ SE NE Sec. 26-31-10.
Lime 1,644-53 ft.; T.D.; acidized for 5 bbls. day; to D.D.

Lerke et al's No. 1 Mason, C NE NE Sec. 5-31-10.
T.D. 1,661 ft.; dry and abd.

B. Taylor et al's No. 1 Wilson, SE NE SE Sec. 5-28-10.
Machine abd.

ELLIS COUNTY

Ashby et al's No. 1 Mermis, NW cor. NE Sec. 34-13-16w.
Rig.

ELLSWORTH COUNTY

Elwell et al's No. 1 Campbell, SW cor. Sec. 20-17-7w.
Location.

FINNEY COUNTY

National Ref. Co. et al's No. 1 Smith, C SE SW Sec. 2-22-29w
T.D. 3,323 ft.; dry and abd.

GREENWOOD COUNTY

Greeley et al's No. 1 Satler, SW SE SW Sec. 28-25-12.
Spud.

Ward McGinnis' No. 1 Sample, NE SE Sec. 16-25-10e.
Spud.

HARPER COUNTY

R. G. Berry's No. 1 Anthony, C SW SW Sec. 17-31-9w.
Lansing 3,750 ft.; drlg. 3,822 ft.

HARVEY COUNTY

Hollow et al's No. 1 Swafford, NW NE NW Sec. 8-22-1w.
Rig.

Wenzel et al's No. 1 Schrag, NW SE Sec. 24-22-3w.
Rig.

Lassen, Bruce et al's No. 1 Joseph, NW NE Sec. 13-24-2.
Spudded and abd.

KINGMAN COUNTY

W. C. McBride, Inc.'s No. 1 Wolbridge, NW SE Sec. 16-27-7w.
Drlg. 755 ft.

Stanolind-Amerada's No. 1 Holtje, NE SW Sec. 16-26-4w.
Chat 3,635 ft.; drlg. 3,855 ft.

(Continued on Page 74)

Extend Wilzetta and Langston Pools; Big Well in Lucien Pool; Naval Reserve Output Up

By JAMES McINTYRE

It is interesting to note in connection with the ups and downs in production of Oklahoma pools that the largest producing pool in Osage County, Oklahoma, is not Burbank. It is the Naval Reserve Pool, in Township 24-7. The old Burbank Pool is producing 9,250 bbls. per day but the Naval Reserve Pool is making nearer 9,500 bbls. The South Burbank Pool, which is cut off from the Burbank Pool but produces from the same sand, is held down to 5,850 bbls. per day. Both the Naval Reserve and the South Burbank Pools could produce considerably more if the wells were permitted to flow their capacity. The old Burbank Field has got down to what might be termed the upper class of strippers.

The production of Oklahoma in the first week of July, 500,435 bbls. per day, was considerably above the allowable of 489,500 bbls. set by the oil administrator and the Oklahoma Corporation Commission.

The second producing well in the Langston Pool, in Lincoln County, appears to be good for from 600 to 800 bbls. per day. It is shut in for tankage. The well is Jack Shaffer, Inc., and Mid-Continent Petroleum Corp.'s No. 1, C SW SW SE Section 11-17-1w, an offset to the discovery well, had Viola lime at 5,030 feet; Simpson dense at 5,050 feet; dolomite at 5,080 feet, and first Wilcox sand at 5,104 feet and was bottomed at 5,124 feet. A 10-inch core sample of the Wilcox sand showed good saturation and it is expected that when completed the well will be as good or better producer than the Amerada-Stanolind discovery well.

The Atlantic Oil Producing Co.'s No. 3-C, C W half NE NW Section 18-9-5, in the Earlsboro district, Pottawatomie County, which was acidized in Hunton lime at 4,098-4,120 feet, flowed 560 bbls. of oil in 22½ hours.

Commission Hearings

Revision of rules and regulations to permit cancellation of underproduction carried by wells in the Wilcox sand zone of the Oklahoma City Field will be considered at a hearing before the Corporation Commission, July 20.

On the same day, rules will be considered for taking potentials in the Wilcox zone, the tests to be made in September. There is considerable opposition to open-flow tests in the zone, so it is possible that a percentage decline will be established with possibility of setting up a lease basis method in lieu of the present per-well basis.

There will be no hearings before the commission in August, which will necessitate some long range orders until the September hearings are resumed. Of most importance on the docket is the matter of cancelling underproduction in the Wilcox zone. The July proration order permitted the operators to move all their underage, but it is evident some wells cannot make up this amount.

Daily Average Production

Estimated daily average production in the week ending July 7 and the preceding week was as follows:

Pool—	Barrels July 7	Barrels June 30
Allen	5,120	5,195
Blackwell district	4,900	4,950
Bristow-Slick	10,500	10,500
Cushing-Shamrock	14,500	14,250
Chandler district	6,500	6,500
Davenport	750	750
Healdton	9,150	9,150
Hewitt	4,950	4,950
Burbank	9,250	9,100
South Burbank	5,850	5,600
Balance of Osage	26,750	25,250
Lucien	5,825	9,880
Crescent	6,125	5,905
Marshall-Lovell	1,300	1,300
Bowlegs	9,410	10,950
Carr City	4,650	5,940
Earlsboro	9,425	10,350
East Earlsboro	10,275	12,090
South Earlsboro	1,055	1,355
Little River	12,325	14,015
East L'ttle River	750	875
Seminole	10,790	11,245
Eas. Seminole	1,120	1,265
Searight	2,335	2,640
Maud	1,060	1,096
Mission	3,090	3,435
St. Louis-Pearson	23,085	25,995
Cromwell	4,750	4,750
Papoose	1,300	1,300
Oklahoma City	178,590	177,800
Asher-West Asher	1,875	1,520
Tatums	6,730	6,585
Sholem-Alechem	4,475	4,475
Duncan	4,600	4,500
Tonkawa-Garber-Thomas	6,700	6,700
Fish	5,005	4,440
Konawa	2,045	2,165
Gray	1,545	2,160
Graham	3,750	3,700
Holdenville	3,355	3,085
Wewoka	4,350	4,350
Yale-Jennings	5,100	5,125
Other pools	62,315	54,904
Total	500,435	515,090

Autumn Allocations

Hearing to fix the state allocations to pools will be held July 26 and the pool quotas will be for the August and September periods. Secretary Ickes, the oil administrator, has been asked to fix Federal quotas for the two months, but should he decline, the order for the two months will be the same.

On the day prior to the statewide hearing, the code state allocation committee will hold a conference with W. J. Armstrong, state umpire, to determine the status of fields and the demand for crude from the various sources of supply. After the meeting, the umpire will make recommendations to the commission.

On July 13 the commission will make rules for taking potentials in the Class C fields of the State, the tests to be made during the last half of this month and to be effective as of August 1. Fields include Lucien, Crescent, Keokuk and the Simpson sand zone of Fish Pool.

Osage County

Just south of the Kansas line D. D. Simon found the Peru sand at 833-53 feet, with a small show of oil in his No. 1, SW cor. NW Section 32-29n-12e, Osage County. The well was abandoned as a dry hole at 865 feet, total depth.

On the east side of the South Burbank Pool, Carter Oil Co. and others continue to prove up the merits of this extension, adding No. 7 Presbury to the list of producers. Sand was had at 2,703-89 feet, total depth, for an initial of 1,808 bbls.

Champlin Refining Co. has abandoned location for No. 7 Maker, SW cor. SE NE Section 15-25n-6e.

Lewis Production Co. and Continental Oil Co.'s No. 2, SW cor. SE SE Section 9-24-7, had Bartlesville sand at 2,517-68 feet, total depth, and was completed for 537 bbls. in 14 hours after a 100-quart shot of nitro.

Champlin Refining Co. has completed No. 17 Kennedy, NW cor. NE Section 16-24-7, for 250 bbls. after a 60-quart shot. Sand was at 2,531-2,615 feet, total depth, first oil being found at 2,570 feet.

A. H. Kasishke's No. 1, NW cor. NE Section 16-24-7, was good for 500 bbls. of oil and 50 bbls. of water after plugging back from 2,674 feet to 2,672 feet. Top of the sand was at 2,597 feet.

Lewis Production Co. extended production one-quarter mile west in the Naval Reserve Pool with its No. 5, NW cor. NE NW Section 21-24-7. Sand was topped at 2,675 feet, and at 2,730 feet (total depth) was shot with 30 quarts of nitro to initial 400 bbls.

Another completion for Lewis Production Co. was had in its No. 6, SW cor. NE Section 28-24-7. This one had sand at 2,577-2,652 feet. Total depth was 2,67[illegible] feet, and after an 80-quart shot produced 781 bbls.

On the south end of the Naval Reserve Pool Skelly Oil Co.'s No. 4 Bighear initialed 575 bbls. in 14 hours after a 150-quart shot in sand found at 2,556-2,668 feet, total depth.

Felix Quinlan deepened his No. 5, CNL SW Section 26-24-8, from an old total depth of 1,840 feet and found Wheeler formation from 1,858-68 feet, which was good for 10 bbls. on the pump.

R. J. Barritt's No. 1-A, SW cor. NE Section 16-23-9, had an oil showing in the Bartlesville sand topped at 2,130 feet after a 90-quart shot from 2,143-63 feet, but was abandoned after the Burgess from 2,285-96 feet, total depth, failed to produce.

Texas Co.'s No. 1, CNL SW Section 17-21-10, was deepened to the Mississippi lime and was completed for 75 bbls. Lime was topped at 2,350 feet; pay at 2,354-56 feet, total depth.

Empire Oil & Refining Co. continues drilling in its wildcat test in SE cor. NE Section 3-25-3. It was drilling at 3,165 feet in lime with the well flowing by heads from Cleveland sand found at 2,881-2,934 feet.

Champlin Refining Co.'s No. 2 Terrill, NE NW SE Section 15-25-6, was drilling at 3,251 feet, having encountered a hole full of water in the Hominy sand topped at 3,233 feet. This well, which is in the south end of the present limits of the South Burbank Pool, was a disappointment when the Burbank sand, found at 2,785-2,852 feet, failed to produce.

Water is showing in Phillips Petroleum Co.'s No. 6 Bean, SW cor. NW Section 15-25-6. Sand was had at 2,828-60 feet, total depth, swabbing 75 bbls. in 12 hours. The water appeared after a light shot of nitro and the company is trying to effect a shutoff. This well is a diagonal northeast offset to Skelly Oil Co.'s dry hole, NE cor. SE Section 16, which was abandoned at 2,871 feet.

New locations for the county this week included Atlantic Oil Producing Co.'s No. 9, SW NW NE SW Section 19-25-8, location; Sinclair Prairie's No. 1, SE cor. NW Section 9-23-7, rig; Carl T. Matthews and others' No. 1, SW cor. SE Section 34-23-7, location; W. C. Norris' No. 2, CWL NE NW SE Section 29-21-11.

Northwestern Fields

In Kay County Carter Oil Co.'s No. 1 Cline, SE SW SE Section 16-28-5, was drilling at 535 feet.

A northwest extension to the Tonkawa Pool was registered in the Argo Oil & Gas Co.'s No. 1 Freese, SW NE NW Section 30-25-1w, when it flowed and

Wildcat Operations in Oklahoma

Week Ending July 7

NORTHERN OKLAHOMA

ALFALFA COUNTY

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.
T.D. 6,480 ft.; fishing for tools.

BECKHAM COUNTY

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-18w.
T.D. 2,162 ft.; C.O.

Price and Watchorn O. & G. Co.'s No. 1 Hoard, NE SW Sec. 17-8-26w.
Fishing 765 ft.

CADDO COUNTY

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
Drlg. 11,220 ft.

CLEVELAND COUNTY

Phillips Pet. Co. et al's No. 1 Baker, C SE NW Sec. 11-9-2w.
Drlg. 5,965 ft.

COAL COUNTY

Moore & Deaner's No. 1 Edward, NW NE SE Sec. 27-2-8.
S.D. 4,970 ft.

GARFIELD COUNTY

Ross Cummings et al's No. 1 Gage, SE NW Sec. 27-22-3w.
Spudded and S.D.

GRADY COUNTY

Mid-Western Oil Co., Inc.'s No. 1 Carter, NW NE SE Sec. 32-3-7w.
Rig.

GRANT COUNTY

W. Earl Witt et al's No. 1 Patton, SW SE Sec. 19-29-3w.
Cellar and pits.

HARPER COUNTY

Sinclair Prairie Oil Co.'s No. 1 Neff, NW SE Sec. 21-26-24w.
Rigging up.

HUGHES COUNTY

Dickison et al's No. 1 Webster, NW NE Sec. 22-10-10.
Rig on ground.

J. B. Hill's No. 1-A Perkins, C W½ SW SW Sec. 7-5-9.
T.D. 1,076 ft.; S.D.

Olympic Oil Co.'s No. 1-A McClassen, SE NW NW Sec. 12-9-8.
Cromwell sand 3,433 ft.; T.D. 3,478 ft.; small S.O.; cmtng. 8-in.

Olympic Oil Co.'s No. 1 McClassen, SE NW NW Sec. 12-9-8.
T.D. 600 ft.; lost tools; S.D.

Smith et al's No. 1 Farmer, SE NW Sec. 32-5-2.
S.D. 100 ft.

KAY COUNTY

Carter Oil Co.'s No. 1 Cline, SE SW SE Sec. 16-28-5.
Drlg. 535 ft.

KINGFISHER COUNTY

Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w.
Drlg. 4,915 ft.

KIOWA COUNTY

Bailey & Johnson's No. 1-A Potts, CEL NW NW SW Sec. 31-7-14w.
S.D. 250 ft.

LEFLORE COUNTY

East Okla. O. & G. Co.'s No. 1 Metcalf, SW cor. Sec. 2-4-26.
T.D. 1,505 ft.; running 8-in. csg.

Murdock et al's No. 1 fee, SW NE SW Sec. 15-5-25e.
T.D. 2,425 ft.; drlg. by tools.

LINCOLN COUNTY

Harvey Newman Oil Co.'s No. 1 Rueb, C NW NE Sec. 23-15-5.
Cellar.

Mid-Continental Oil Co.'s No. 1 Bolby, C SE SW Sec. 27-12-2.
Rig; waiting for rotary tools.

L. G. Hulse's No. 1 Sloan, SW NW SE Sec. 19-17-3.
Old T.D. 1,474 ft.; C.O. at 720 ft.

Texas Co.'s No. 1 Gessmann, SE NE Sec. 33-14-4.
Wilcox 4,999-5,002 ft.; H.F.W.; S.D.

LOGAN COUNTY

W. N. Anthony's No. 1 Fruin, SE SW Sec. 4-16-1.
Drlg. 4,615 ft.

McCLAIN COUNTY

Denver P. & R. Co.'s No. 1 Newburn, C SE SW Sec. 22-5-1.
Drlg. 5,710 ft.

NOBLE COUNTY

Continental Oil Co.'s No. 1 Bennett, SE NW Sec. 19-20-1w.
Wilcox sand 5,106-15 ft.; several small flows of oil, showing wtr.; cored to 5,122 ft.; in sand; bailing.

Magnolia Pet. Co.'s No. 1 Crawford, SE NW Sec. 27-21-2.
Drlg. 2,432 ft.

Texas Co. et al's No. 1 Voss, SW NE SE Sec. 28-22-2w.
Wilcox 4,816-59 ft.; flowed 927 bbls. in 23 hrs.; T.D. 4,872 ft.; sandy dolomite; shut in.

Vaughn Dev. Co.'s No. 1 Loula, NE SE SW Sec. 16-22-1.
Cellar; moving in material.

OKFUSKEE COUNTY

Carter Oil Co.'s No. 1 W. H. Dill, C NW SE Sec. 2-11-8.
Rig.

Delton Oil Co.'s No. 1 Fixico, SE cor. Sec. 7-11-8.
Drlg. 2,651 ft.

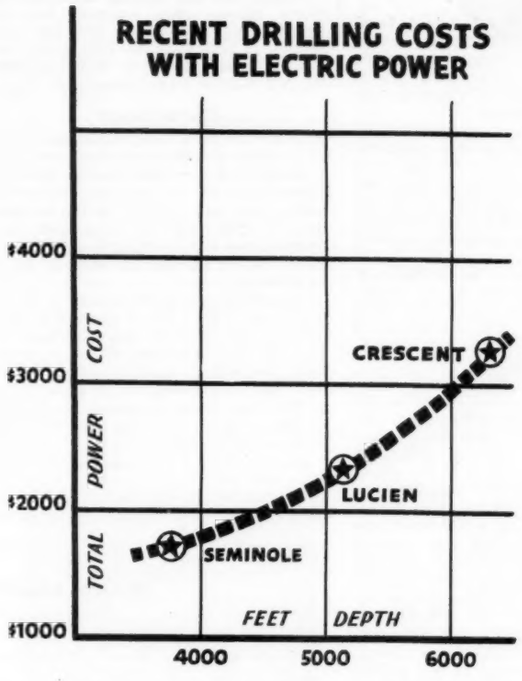
OKLAHOMA COUNTY

Gypsy Oil Co. et al's No. 1 Grant, C SE NW Sec. 27-13-4w.
Drlg. 7,133 ft.

Springrose Drlg. Co.'s No. 1 Edwards, C SE Sec. 19-11-1.
T.D. 6,540 ft.; 400 ft. drill pipe in hole.

(Continued on Next Page)

LOWER DRILLING COSTS



IT WILL PAY YOU TO LOOK AT THIS CHART OF DRILLING COSTS WITH ELECTRIC POWER . . .

The small chart tells a big story but it is the best way we could find to show you, in actual figures, just how little it costs to drill wells with *purchased electric power.*

Following are the *many outstanding advantages:* 1.—It saves you time because you can make hole faster with fewer breakdowns. 2.—It saves you money because there is no waste—you only pay for what you use. 3.—It eliminates the need for large quantities of water, thereby doing away with one of their most difficult problems. 4.—It eliminates difficulty in obtaining fuels.

In fact, from almost any angle you look at, purchased electric power is cheaper and better to use.

If you would like to know more about what it can do for you, just let us know. Our engineers will gladly supply you with valuable information on using electric power either for drilling, producing, pipe line or refining. There's no obligation on your part.

OKLAHOMA GAS AND ELECTRIC COMPANY

Commercial Department

OKLAHOMA CITY OKLAHOMA

swabbed 57 bbls. after agitation. Production is from chat formation at 4,249-4,330 feet, total depth.

Three-quarters of a mile east of the Tonkawa Pool John McCullough abanboned No. 1 Reginer, NW cor. SE Section 1-24-1w, at a total depth of 1,566 feet. A small show of gas was had in lime at 1,543-46 feet.

George Thomas' No. 1 School Land, SW cor. Section 13-20-5e, a Pawnee County wildcat, was completed as a dry hole at 3,755 feet, total depth. Wilcox sand was had at 3,698-3,755 feet and carried a hole full of water.

Texas Co. and others' wildcat test, No. 1 Voss, SW NE SE Section 28-22-2w, western Noble County, is standing shut in waiting for a crude outlet. This well is rated at 1,000 bbls. in the Wilcox sand found at 4,816-59 feet; green shale, 4,859-65 feet; sandy dolomite, 4,870-72 feet, total depth.

Lucien Consolidated's No. 2 Miller, C NE SE Section 18-20-2w, in the Lucien Pool, flowed 3,867 bbls. in 12 hours from the first and second Wilcox sands found at 5,043-5,103 feet and 5,150-5,211 feet, total depth, respectively.

In the south end of the Lucien Pool, Shell Petroleum Co. has completed its No. 2 Kolb, C SW SW Section 28-20-2w, for 2,679 bbls. after a light shot in sand found at 4,952-5,014 feet and 5,066-5,121 feet, total depth.

Continental Oil Co.'s No. 1 Bennett, SE NW Section 19-20-1w, was coring ahead at 5,122 feet in sand. Sand was topped at 5,106 feet and after bailing down showed 4 bailers of water per hour with several small flows of oil.

New locations in this area are as follows: Sinclair Prairie's No. 1 Smith, SW SE NE Section 28-22-2w, location, one-quarter mile north of Texas Co.'s No. 1 Voss, a wildcat discovery in the Wilcox sand now in the process of completion; Lucien Consolidated's No. 4 Weber, C SW NW Section 20-20-2w, Lucien Pool, rigging up; Vaughn Development Co.'s No. 1 Loula, a wildcat in NE SE SW Section 16-22-1e, moving in material.

Creek County

A dry hole was had with the abandonment of the Bay State Oil Co.'s No. 1 Lasley, NE cor. NW Section 3-17-8, Creek County. A small show of oil was had in the Layton at 1,330-35 feet and Bartlesville at 2,795-2,840 feet, water showing up in base of the latter sand. Total depth was 3,190 feet, 26 feet in the Mississippi lime.

Phillips Petroleum Co. is adding another producer to its Charles lease in its No. 7, SW cor. SE Section 25-15-7. The well swabbed 112 bbls. from the second Wilcox sand after a 15-quart shot at 3,751-81 feet, total depth. It is showing some water.

In this same area the Devonian Oil Co. will shoot No. 1 Smith, NE cor. NW Section 36-15-7. Sand was topped at 3,738 feet and after filling 3,000 feet with oil started showing water at 3,762 feet, total depth. It has been plugged back to 3,758 feet, where it will be shot.

Logan County

Gypsy Oil Co. and Carter Oil Co.'s No. 1 Good, C SW NW Section 27-17-4w, Crescent Pool, originally completed at a total depth of 6,290 feet, was easing ahead in a white sand at 6,306 feet with no increase in production. Broken lime formation, 6,290-97 feet; top white sand, 6,297 feet. The same companies are building rig for their No. 1 P. Middleton, C SE SE Section 21-17-4w, in the north edge of the pool and offsetting No. 2 Herron, the largest producer in the pool to date.

Gypsy Oil Co. is offsetting the Carter-Gypsy's No. 2 Herron to the east and is building rig for No. 1 Hanewinckel, C NW NW Section 27-17-4w, Crescent Pool.

Eason Oil Co.'s No. 3 Katscher, C NW SW SW Section 34-17-4, was drilling at 2,920 feet. No. 2 Katscher, C NW NE SW Section 34-17-4, is digging cellar and moving in rig.

In the Langston area Mid-Continent Petroleum Corp. was coring at 5,124 feet. A core taken at this depth showed saturated oil sand, slightly streaked with shale.

Lincoln County

Although no completions were registered this week for Lincoln County, a few new operations were started. The list follows: Derrickson & Haddock's No. 1 Henning, NW NE NE Section 14-15-6e, North Stroud area, location; Sinclair Prairie's No. 2 Hopkins, NW SW NE Section 12-14-3, Chandler Pool, cellar and pits; same company's No. 4 Norton, SW SE NE Section 7-14-4, same pool, cellar.

Lincoln County

In the Wilzetta Pool of Lincoln County Amerada and Stanolind companies' No. 1 James, NE cor. SW Section 35-13-5, showed for an increase in production when same was acidized in the Hunton lime at 4,240-4,309 feet, total depth, but first plugged back to 4,250 feet. It flowed 1,081 bbls. of oil and 325 bbls. of water in 24 hours.

The Misener sand discovery of R. L. Kemp and others, No. 1 Cook, SW NW NE Section 23-17-6, was showing for about 40 bbls. of oil and 50 bbls of water from the Wilcox sand topped at 3,157 feet. They were drilling ahead in sand at 3,185 feet. Same operators' No. 2 Cook is still a location in the SW NW NE of the same section.

Mid-Continent Petroleum Corp.'s No. 1 Ellis, SE NW Section 33-13-5, came in on production during the week, having swabbed and flowed 165 bbls. in six hours from the Hunton lime encountered from 4,243-57 feet. It will be acidized.

Oklahoma County

H. E. Rapp's No. 1 Price, C E half NE SW Section 19-14-3w, 4 miles west of Edmond, continues to produce a high percentage of water along with the oil. This wildcat, in the northwestern part of Oklahoma County, originally bottomed at 6,708 feet, was deepened to 6,748 feet in white sand encountering a hole full of water. It was plugged back to 6,733 feet and put on mechanical lift for 57 bbls. of oil daily. It is making about 67 per cent water.

The wildcat discovery, from a geological viewpoint, of Mid-Kansas Oil & Gas Co.'s No. 1 Messer, is getting real competition in this same company's No. 1 Dahl, SE cor. Section 31-14-3w, which offsets the discovery to the west. The No. 1 Dahl is running extremely higher on the formation tops and is now standing cemented with the 6-inch casing at 6,312 feet; total depth, 6,393 feet.

In the NE cor. of Section 6-13-3w, Stanolind and Amerada companies' No. 1 Seuneram found the Viola lime at 6,335 feet and were standing with the 7-inch casing cemented at 6,349 feet; total depth was 6,370 feet.

A wildcat of major importance is the Gypsy Oil Co. and others' No. 1 Grant, C SE NW Section 27-13-4w. This well, although seemingly a failure, should supply plenty of information for future drilling in this area. The Sylvan shale was topped at 7,075 feet and they were drilling it in at 7,135 feet.

No new locations were staked in the Oklahoma City Field this last week and only one completion was chalked up, this being the Phillips Petroleum Co.'s No. 4 Beaucamp, SW cor. NW SW SE of the profusely drilled Section 22-11-3w. Sand was at 6,503-70 feet, total depth, and was shot with 60 quarts at 6,526-66 feet. The potential four-hour gauge of the well was 304 bbls.

In Section 22-11-3w, Oklahoma City Field, Mid-Kansas Oil & Gas Co. has successfully increased production of No. 2 Mollman, NW SE SE. This well, deepened from 6,410 feet, had the School Land sand at 6,430-60 feet and the Hammer Handle sand at 6,545-60 feet, total depth, from which it produced 2,689 bbls. in 24 hours. It is not completed.

There still was no change in the status of Springrose Drilling Co.'s No. 1 Edwards, C SE SE Section 19-11-1e. It was shut down at 6,540 feet with 400 feet of drill pipe in the hole.

Northeast of the town of Norman, the Phillips Petroleum Co. and others' No. 1 Baker, C SE NW Section 11-9-2w, was drilling at 5,965 feet. Checkerboard was topped at 5,435 feet and the 9-inch casing was set at 5,855 feet.

Greater Seminole Area

In the North Keokuk Pool, Carter Oil Co. and others were cementing the 8-inch casing at 4,460 feet in No. 1 Smith, C W half SE SE Section 14-11-6. Wilcox sand was topped at 4,520 feet.

In the Holdenville sector of the Seminole area, Mid-Continent Oil & Gas Co. got a 240-bbl. well after a light shot in No. 8 Factor, CSL NE SE Section 15-7-8. This was a Calvin sand test, sand having been encountered at 1,148-80 feet, total depth.

In the Fish sector of Township 7n-8e, Blackwell & Jones are standing shut down with the 8-inch casing cemented at 3,002 feet in No. 1 Ferguson, NW SW SW Section 29-7-8. A show of oil was had in the Gilcrease at 2,875 feet. The Cromwell sand also showed oil at 3,019-35 feet.

Winona-Jarvis & Holm's No. 1 Myers, SE SW NE Section 31-7-8, continues to pour forth plenty of water along with the oil, the last available gauge being 2,864 bbls. of oil and 4,000 bbls. of water on flow. Production is coming from the Simpson dolomite topped at 4,216 feet, which is also the total depth.

New work in this area consisted of a wildcat location staked by Moran and others, known as No. 1 Brinlee, SW cor. NE Section 27-6-5, which strikes a happy medium between the Gray Pool in Pottawatomie County and the Konawa Pool in Seminole County.

In the South Keokuk Pool, these same companies' No. 2 Riddle, C S half NE SE Section 35-11-6, topped the Misener sand at 3,998 feet, and at 4,009 feet (total depth) produced 5,000,000 feet of gas with a small show of oil. They are preparing to deepen. A location has been staked for No. 3 on the same lease and a rig is now up in C S half NW SE. Carter Oil Co. and others also started building rig for No. 1 Grisso, C N half SE NE Section 2-10-6.

In Okfuskee County, but in Greater Seminole territory, Carter Oil Co. has a rig up for No. 1 Dill, a Wilcox sand test in C NW SE Section 2-11-8.

In Section 7-11-8, SE cor. Delton Oil Co. is drilling at 2,651 feet in its No. 1 Fixico, a wildcat. Calvin sand was topped at 2,243 feet but was dry.

Stanolind and Amerada's wildest test, No. 1 Goodman, SW NE NE Section 5-10-4, logged the Checkerboard at 3,280 feet and was drilling at 3,870 feet.

On the west edge of the Earlsboro Pool, Atlantic and Sinclair Prairie are getting a Hunton lime producer in No. 3 Foreman, C S half NE NW Section 18-9-5. It swabbed 125 bbls. from Hunton lime at 4,100-20 feet, total depth, and is now shut down waiting on acid treatment.

Manhattan Production Co.'s No. 1 Lit-

(Continued on Page 81)

Wildcat Operations in Oklahoma

(Continued from Preceding Page)

OSAGE COUNTY

Norbla O. & G. Co.'s No. 1, NW SE Sec. 21-24-7.
Drlg. 2,300 ft.

Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
S.D. 1,712 ft. for wtr.

Empire O. & R. Co.'s No. 1, SE NE Sec. 3-25-3.
Drlg. lime 3,165 ft.; flowing by heads from Cleveland sand 2,881-2,934 ft.

PAWNEE COUNTY

Geo. Thomas' No. 1 School Land, SW cor. Sec. 13-20-5.
Wilcox 3,698-3,755 ft.; T.D.; H.F.W.; dry and abd.

PITTSBURG COUNTY

Arkhoma's No. 1 Cummings, NW NE SE Sec. 6-4-12.
Fishing 730 ft.

Exchange Drlg. Co. et al's No. 1 Chunn, SE NW Sec. 29-4-14.
T.D. 350 ft.; waiting for csg.

W. E. Hailey's No. 1 Drew, NW SW Sec. 21-3-14.
S.D. 190 ft.

Mid-Western O. & G. Co.'s No. 1 Shelton, CSL SE NW Sec. 7-7-18.
Sand 2,054-2,306 ft.; T.D.; 750,000 ft. gas; comp.

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14.
Lost tools: T.D. 3,200 ft.; S.D.

PONTOTOC COUNTY

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-2-6.
S.D. 2,920 ft.

Boyle et al's No. 1 Newbern, SW NE Sec. 31-5-4.
T.D. 2,237 ft.; hole full sulphur wtr.; cementing.

Emanuel, Rudman & Hatcher's No. 1 Mayer, SW SE NW Sec. 7-3-8.
S.D. 1,525 ft.

Jarrett Pet. Co.'s No. 1 Johnson, SE NW Sec. 28-4-4.
Rigging up rotary.

Dandridge et al's No. 1 Stafford, NW cor. Sec. 5-1-6e.
T.D. 680 ft.; S.D.

Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
Machine.

Riddle et al's No. 1 Barnes, SE NW SE Sec. 21-5-4.
T.D. 2,910 ft.; fishing for tools.

Southern Oil Corp's No. 1 Ladd, C NW NW Sec. 27-3-7.
Cellar.

POTTAWATOMIE COUNTY

Phillips and Gypsy Oil Co. et al's No. 1 Flynn, NE NW Sec. 17-6-3.
Drlg. 1,725 ft.

Stanolind-Amerada's No. 1 Goodman, SW NE NE Sec. 5-10-4.
Drlg. 3,870 ft.

SEMINOLE COUNTY

Harman Oil Co.'s No. 1 Bowlegs, SE NE SW Sec. 1-7-7.
T.D. 1,655 ft.; fishing.

Moran et al's No. 1 Brinlee, SW NE Sec. 27-6-5.
Rig.

Tate & Starbuck's No. 1 Heard, SE NW Sec. 9-6-7.
T.D. 985 ft.; fishing.

Wrightsman Oil Co.'s No. 1 Smith, NW SE Sec. 25-10-7.
Cellar and pits.

WASHITA COUNTY

Anadarko Basin Oil Co.'s No. 1 Wolf, NE SW Sec. 23-9-17w.
Rigged up and S.D.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e.
T.D. 3,581 ft.; 100 ft. wtr. in hole.

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e.
S.D. 1,135 ft.; machine moved out.

L. A. Fitts' No. 1 Blankenship, NE cor. NW Sec. 19-3s-10e.
Drlg. 575 ft.

Malernee et al's No. 1 Greenville, N. B., NW SW Sec. 36-2S-13e.
Drlg. 1,804 ft.

CARTER COUNTY

Daphine Oil Co.'s No. 1 Hooks, SE NW NW SE Sec. 5-1s-2w.
Set 12-in. csg. 57 ft.; S.D.

Hudson & Poland's No. 1 Sullivan, NE SE Sec. 5-5s-1w.
T.D. 2,813 ft.; S.D. for wtr.

McHenry et al's No. 1-A Ratliff, NW SW Sec. 28-1s-2w.
Sand 540-55 ft.; S.O.; S.D. for csg.

COMANCHE COUNTY

Heiden & Taylor's No. 1 Crutcher, SW cor. NE Sec. 11-1n-12w (O.W.D.D.).
T.D. 1,320 ft.; dry and abd.

F. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
Drlg. 964 ft.

Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
T.D. 616 ft.; running 5-in. csg.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-2n-3w.
S.D. 351 ft.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Kelly, NE cor. Sec. 10-1n-20w (O.W.; P.B.).
Old T.D. 2,084 ft.; P.B. 1,688 ft.; sand 1,680-88 ft.; 22 bbls. oil in 6 hrs.; shut in.

JEFFERSON COUNTY

Geo. Pace et al's No. 1 Jack, NE NW NW, Sec. 10-4s-4w.
T.D. 1,220 ft.; S.D. for repairs.

JOHNSON COUNTY

Okla. Oil Corp.'s No. 1 Tubbi, SW NE SE Sec. 11-2s-8.
Drlg. 1,610 ft.

MARSHALL COUNTY

Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
T.D. 4,937 ft.; S.D. for wtr.

MURRAY COUNTY

Gilcrease Oil Co.'s No. 1 Brown, SW cor. Sec. 26-1n-2e.
Fishing 1,510 ft.

T. E. Revell et al's No. 1 Wolfe, NE cor. Sec. 18-1-2.
S.D. 2,430 ft.

PUSHMATAHA COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-6s-20e.
Set csg. 410 ft.

Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18e.
T.D. 2,405 ft.; S.D.

STEPHENS COUNTY

Carter Oil Co.'s No. 1 Hildebrand, C SW SE NE Sec. 1-3s-7w.
Rigging up.

Carter Oil Co.'s No. 1 McCasland, C NW NW SW Sec. 22-1s-4w.
Rig.

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w.
S.D. 3,210 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w.
Rig.

4-SOUND REASONS

for using

T-I-W CHRISTIAN BITS

1: Has long shank to insure straight hole.

2: Affords pressure-on-bottom advantages of short bit.

3: Oval shaped body builds better side walls faster.

4: Design of body minimizes balling up in sticky formations.

Every bit honestly and correctly dressed. Excellent field service. Your business solicited.

TEXAS IRON WORKS

1401-1423 Maury St. • HOUSTON, TEXAS

DEEP WELL DRILLING

By Walter H. Jeffery

816 pages; 425 illustrations, including 12 large folded insert derrick diagrams.

L. G. E. Bignell, Petroleum Engineering Editor of The Oil and Gas Journal, in reviewing this volume says:

"Anyone who is interested in any phase of production in the petroleum industry can hardly afford to be without a copy of this book. It deals with all subjects, from the geology of petroleum and geophysical methods of prospecting for favorable locations for accumulations of gas and oil, through the building of derricks, drilling the hole with cable tools and rotary outfits, also diamond drilling methods, to the finishing of high-pressure wells, and finally closes with information on the various production methods applied to small wells. The data contained in this book is recognized as authoritative, and it has been used as a textbook in many universities and technical schools offering a petroleum engineering course."

Price $6.00 postpaid

Order your copy today from the Book Department of

The OIL and GAS JOURNAL

Tulsa, Oklahoma.

PHOTOSTAT COPIES AND BLUE PRINTS

ONE HOUR SERVICE

KODAKS Dial 3-7166

Engineering Supplies
City Maps
Lantern Slides
40x50 Super Stats
Kodak Finishing
Copying and Enlarging
Kodalith Negatives

Tulsa Camera Record Co.

317 South Boston Street

TULSA, OKLA.

Among Gulf Coast Drilling Contractors

Talbot Drilling Co. (Ben Talbot) is moving a rig into north Montgomery County, on the Montgomery-Walker County line, northwest of Willis, to drill a well for the Sayre Oil Co. of Sayre, Okla. This is the Sayre Oil Co.'s first wildcat well in the Gulf Coast. It will be carried as No. 1 Delta Land & Timber Co., and is located in the J. H. Truitt Survey. E. L. Martin, geologist and executive of the company, will supervise operations. Talbot Drilling Co. has taken a turn-key job on this well. A workover job for the Sayre Oil Co. is also being handled by the Talbot Drilling Co. in South Liberty, liner and screen to be cut out. Rig is up on the workover.

L. W. Capps has two rigs running at this time, one for the Loring Oil & Gas Co. (Benedum-Trees) at Westmoreland, a suburb of Houston, and one at Brookshire, Tex., for S. J. Sloane and others which is shut down waiting for orders. The Westmoreland well is drilling below 5,000 feet.

Jeff Hooper, who started two rigs for the Shell Petroleum Corp. recently at Danbury, Tex., is also rigging up to drill a well for the Smithtex Oil Co. near Rio Grande City in Starr County. The same contractor also has derrick up on a location for the American Liberty Oil Co. in the Coleto Creek Field.

C. & R. G. Drilling Co. (Gus Cormier) has derrick up for a wildcat test for the Gillock Petroleum Corp. southeast of Alvin in Brazoria County, which will be carried as No. 1 Frank Truska. Rig will be moved in in the next two or three days.

Bud Coyle has moved a second rig into Beauregard Parish, near Fields, La., for the Federal Petroleum Co. Location will be approximately 6 miles northwest of No. 1 Lutcher-Moore Lumber Co., and the well will be carried as No. 1-B Lutcher Moore Lumber Co.

Gholson Drilling Co. has set 500 feet of 15½-inch surface casing on its No. 1 R. D. Garrison, located approximately 80 miles northwest of San Antonio in Bandera County, which is being drilled with cable tools.

Hamill Drilling Co. is drilling a well for Hamill & Hamill on the southeast slope of the dome at Markham, Tex. This well will be carried as No. 1 Hudson.

R. A. Wolfe has two rigs running on his own leases, one at Livingston and one in East Texas.

Carl B. King is rigging up to drill a well for the Petrol Oil Corp. on the Waelder ranch near Sinton, San Patricio County, Texas. The company also has a rig running for the Dyck Oil Co. in East Texas, and a rig running for the Regent Oil Co. in East Texas.

DeArman Brothers have one rig running for Hamill & Smith in the Pierce Junction Field.

Harvey & Rush have one rig running for the Houston Production Co. at Kilgore, East Texas.

Joe Hathaway, field superintendent for Care Short in Tomball, Harris County, Texas

RALPH W. TOWNLEY

Ralph W. Townley, one of the Gulf Coast's senior well drilling contractors, started his oil field career as a roughneck for the Haywood Syndicate in the old Evangeline Field, near Jennings, La., in 1905. He was 17 years old at the time, and admits he was still wearing knee britches. After several years of practical experience, he landed a job with the Producers Oil Co. in the Evangeline Field, later going to the Spindletop Field for the same company. In 1911 he was given his first driller's job, and in 1915 launched into the contracting business for himself. He drilled wells for various major and independent companies throughout the Gulf Coast, and also drilled a number of wells in the Shreveport and Monroe, La., districts. Part of the time he was in partnership with J. G. (Red) Wofford, who is regarded as one of the best well men in the Gulf Coast. At one time Mr. Townley had three rigs in his string. Recently he completed a well in the Thompson Field for Naylor & DeCosta, and jointly with George Echols his rig is now drilling at Manvel for the Windsor Oil Co.

RED BALL CUTTING SERVICE

14 YEARS

doing one job well

hasn't made us perfect, but has given us undisputed leadership in the field of recovering pipe. You're out of trouble quicker and at less cost when you call the RED BALL SERVICE.

J. S. Abercrombie Co.

21ST FLOOR GULF BLDG.
HOUSTON - TEXAS

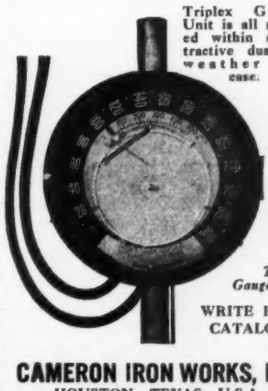
DIRECT READING

No more weight tables to figure

Servicing is minimized, there being no need to calibrate or adjust at frequent intervals.

Diaphragm Unit

Weight is Indicated and Recorded directly in thousands of pounds.



Triplex Gauge Unit is all mounted within an attractive dust and weather proof case.

Triplex Gauge Unit

WRITE FOR CATALOG

CAMERON IRON WORKS, Inc.

HOUSTON, TEXAS, U.S.A.

Export Agent:
74 Trinity Place, New York

Complete Second Producer in New Bosco Area; New Deep Sand Discovery in Iberia Field

By A. C. EASTERWOOD
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., July 9.—The second producer for the recently discovered Bosco Field along with a new deep sand discovery at New Iberia in Iberia Parish turned interest during the past week to the Louisiana Coastal area.

The Bosco Field was extended about a mile east during the latter part of the week when Superior Oil Co. of California's No. 1 Iseringhausen came in and flowed 677 bbls. of 38.2 gravity oil in 20 hours through sixteen-sixty-fourth inch choke on tubing. The well had a pressure of 2,425 pounds on tubing and 2,300 pounds on casing. The 9⅝-inch casing was set at 7,830 feet and tubing was hung at 7,700 feet with two joints of liner and 20 feet of slotted pipe on bottom of tubing. This is the second producer for the field, the first being Superior's No. 1 Hermandes in the easternmost limits of Acadia Parish which came in for around 800 bbls. from perforations 7,845-50 feet. The second producer is to the east and across the line in St. Landry Parish in Section 35-8s-3e.

Superior has five wells drilling within a radius of about 1½ miles of the discovery well, four of which will probably be down to the sand during the coming week. Superior's No. 1 Mire was preparing to core at 7,868 feet, No. 1 Sidney Arceneaux and others was drilling sand at 7,695 feet, No. 1 Looanstie Richard was at 7,562 feet in sandy lime, No. 1 Savoie was below 6,818 feet in shale and No. 1 Kahn and others was sidetracking in shale and shells at 2,280 feet. Standard Oil of Kansas' No. 1 Joseph Mouton had set 13⅜-inch casing at 1,395 feet and was waiting on cement.

Four companies have instrument crews shooting in Acadia Parish. Shell is reported to have a reflection crew working near the Bosco area. Stanolind Oil & Gas Co. has a two-instrument torsion balance crew near Egan and in the southwestern part of Township 9s-1w. The Edwards Drilling Co. is reported working a reflection crew southwest of Bosco and near Duson in Township 9s-3e. The Salt Dome Oil Co. has a two-instrument torsion balance crew to the southwest of Egan and west of Midland and in the northeast part of Township 10s-2w.

Iberia Field

A deep sand proved productive in the old New Iberia Field during the past week when Y. D. Spell's No. 1 Bernard in Section 54-12s-7e, came in flowing at the rate of 30 bbls. per hour through one-quarter inch choke at 3,826 feet. The well gauged 576 bbls. with 25 per cent wash water through three-eighths inch choke and showed 400 pounds pressure on the first day's production. The oil tested 24 gravity at 80 degrees. This is the deepest test yet drilled in the field. This old field was discovered in February, 1917, when Gulf Refining Co. and New Iberia Oil Co.'s No. 1 Boliver was completed as a 125-bbl. well from 6 feet of cap rock at 1,078 feet. Later on in the same year Gulf Refining Co.'s No. 1 Bernard uncovered a deeper producing horizon and was completed for 1,500 bbls. at 2,855 feet. The field has had no production since 1931.

In Refugio County, Quintana Petroleum Co.'s No. 1 O'Connor, which opened a new producing area last week on a torsion balance prospect about 8 miles northeast of the town of Refugio and 3 miles southeast of the Greta Field, was put on a five-hour test and flowed at the rate of 545 bbls. per day through three-eighths inch choke with a tubing pressure of 400 pounds and pressure on casing 850 pounds. Humble Pipe Line Co. is preparing to lay a combination 6 and 4-inch line from the old Refugio Field to the well, a distance of about 9 miles. The oil tested 38.8 gravity.

Cleveland District

South of the discovery well at Cleveland in Liberty County, Gulf Production Co.'s No. 2-C Kirby bottomed hole at 5,893 feet in its second sidetracked hole and flowed 200 bbls. of fluid in six hours, 40 bbls. of which was oil and the remainder wash water and salt water. On a 24-hour test it made 800 bbls. of fluid, 60 per cent of which was salt water. This is the second producer for the field; the discovery well, Gulf's No. 1-C Kirby, was completed the latter part of December, 1933. West of the discovery well Gulf's No. 4-C Kirby gave promise of making a producer when on a drill stem test from 5,837-61 feet through three-eighths inch chokes on top and bottom in three minutes it built up 200 pounds pressure and showed 150 feet of oil and 480 feet of mud cut with oil. At last report it was shut down for orders. From 5,854-61 feet it had 6 feet of gray coarse sand showing oil, 1 foot of coarse lignitic sand showing oil, 2 feet of brown shale and 2 feet of coarse sand showing oil. The well topped the Massilina Pratti at 4,711-21 feet, had Camerini at 5,590-5,600 feet, topped Hockley at 4,761-71 feet and drilled top of Uvigernia at 4,612-22 feet.

In the southeastern part of the county near the town of Devers and southeast of the old Hull Field there seems to be a nice little lease play. Leases are reported to be bringing around $10 per acre. The area has been worked extensively by geophysical instruments and Humble is reported working a reflection crew in the area. A torsion balance crew is also reported working in the general area.

At Splendora

At Splendora, in Montgomery County, Humble Oil & Refining Co.'s No. 1 Anna M. Platte, east of Steen's well, was rigging up. About a mile south of Splendora, Humble Oil & Refining Co. have recently leased the Mrs. M. L. Moore 46-acre tract in the William Wills Survey No. A-59 for a reported consideration of $150 per acre. Steen's No. 1 Texas Long Leaf, discovery well, at last report was making around 10 to 15 bbls. daily through one-eighth inch choke with an equalized pressure of 1,100 pounds pressure on tubing and casing.

Deering & Frazier's No. 1 L. Hicks, in the T. Taylor Survey, was drilling below 5,330 feet in shale. It drilled base of Frio 3,370 feet and had top of Warreni 4,001 feet actual or 3,784 feet subsea. Sayre Oil Co. has staked location for No. 1 Delta Land Lumber Co., 330 feet out of northeast corner of the J. Truitt Survey, north of Willis.

San Jacinto County

In San Jacinto County, Phillips Petroleum Co.'s No. 1 Foster Lumber Co., in the George Taylor Survey, was drilling 4,190 feet. It had Catahoula 1,800 feet, topped Mascilina Pratti 3,150 feet andand had top of Hockley 3,500-37 feet. Surface elevation is 289 feet. Turnbull & Irwin's No. 1 Peoples State Bank, in the J. D. Martinez Survey No. 4, was coring 4,536 feet. It topped Hockley 3,725 feet actual or 3,542 feet subsea.

Livingston Area

About 3 miles north of Livingston in Polk County, Werby and others' No. 1 Dick & Failing, in the A. Viesca Survey, showed favorable indications of making a good producer when on a drill stem test from 4,317-42 feet in 15 minutes through three-quarters inch chokes on top and bottom it built up 250 pounds' pressure and showed 20 fourbles of oil and 2 fourbles of mud cut with oil and fresh water. It topped Hockley 3,476 feet and drilled top of Cockfield 4,263 feet actual or 4,031 feet subsea. From 4,301-14 feet it had silty sand with an odor of gas, shale from 4,314-22 feet, sand and shale 4,322-35 feet, and fine silty sand from 4,335-42 feet. Gem Oil Co. has killed its No. 1 Davis-Holmes, discovery well, and are preparing to deepen. Total depth is 4,311 feet.

Sour Lake

Alpha Petroleum Co.'s No. 1 J. M. Weiss at Sour Lake, in Hardin County, drilled plugs after cementing 7-inch casing at 6,819 feet and at last report was preparing to take a 13-foot core. Operators have been having considerable trouble with the high gas pressure. The well topped Dibollensis 6,393 feet. had top of Hockley 6,339 feet and topped Cockfield 6,818. Yount Lee Oil Co.'s No. 6 Lynn was drilling below 7,520 feet and still in salt. The well is now 3,840 feet in the salt. Operators are endeavoring to uncover a salt overhang in the area. J. W. Parr is reported to have assigned to Humble Oil & Refining Co. approximately 14,000 acres checkerboarded throughout the north half of the county. Humble is also reported to have taken around 350 acres in the W. M. Weiss Subdivision.

Hardin County

Wilcox Oil & Gas Co.'s No. 1 Sternberger, in the C. Dorsey Survey, Hardin County, was drilling 4,044 feet in shale. It topped the Oligocene 3,383 feet and encountered top of Discorbis 3,407 feet actual or 3,316 feet subsea.

Galveston County

About 4 miles south of Dickinson, in Galveston County, George K. Spoor's No. 1 Maco Stewart, in the W. K. Wilson Survey, was still shut down at 6,577 feet. Humble Oil & Refining Co.'s No. 1 Maco Stewart in the John Sellers Survey, about 3 miles north of Spoor's well, was sidetracking at 4,487 feet.

Harris County

Just west of the Houston city limits, in Harris County, Loring Oil Co.'s No. 1 Westmoreland was drilling 5,220 feet. At Goose Creek, in Harris County, Humble Oil & Refining Co.'s No. 80 Simms Smith, deep test for the area, was drilling 1,608 feet in shale. The 20-inch casing was set at 645 feet. Southland Oil Co.'s No. 1 Galney, about 3 miles northeast of Houston, was waiting on cement at 350 feet. Stanolind Oil & Gas Co., Humble Oil & Refining Co. and Amerada Petroleum Co. are reported to have done geophysical work in the area.

Raccoon Bend

At Raccoon Bend, in Austin County, Humble Oil & Refining Co.'s No. 3 Effie Kearns, in the W. C. White Survey, was

Gulf Coast Fields and Wildcats

Week Ending July 7

RACCOON BEND—AUSTIN COUNTY

Company, farm and location	Remarks:
Humble O. & R. Co.'s No. 2 Effie Kearns, 270 ft. W of E line, 825 ft. N of S line of 175-ac. lease in W. C. White Sur.	Old T.D. 4,750 ft.; P.B. to 3,432 ft.; cmt. 7-in. csg.; T.D. 3,445 ft.; putting on pump.
Humble O. & R. Co.'s No. 3 McCasland	Drlg. shale 2,801 ft.
Humble O. & R. Co.'s No. 6 M. R. Sherrod, 933 ft. E of W line, 466 ft. N of S line of W. C. White Sur.	Location.
Humble O. & R. Co.'s No. 14 Roy Thompson, 466 ft. S of N line, 933 ft. E of W line of 253-ac. tract in W. C. White Sur.	Location.
Humble O. & R. Co.'s No. 5-B Wilson	Drlg. shale 2,455 ft.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 6 Blakey & Winston	Coring sand and shale 1,569 ft.
Shell Pet. Corp.'s No. 3 Haury, 800 ft. SE of No. 2 in line with No. 2 and No. 1 Blakely-Winston, H.& T.B. Sur. No. 13	Drlg. shale 2,620 ft.
Shell Pet. Corp.'s No. 1 Schmitt, 318 ft. E, 107 ft. S of NW cor. of 149.7-ac. tract in J. H. Bruner Sur.	Drlg. clay 645 ft.

DAMON MOUND—BRAZORIA COUNTY

Esco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D, Lot 5, A. Darst Sur.	Drlg. hard lime 740 ft.
Sinclair Prairie Oil Co.'s No. 4 Lucas, A. Darst Sur., 125 ft. N 2 line, 25 ft. E W line, Blk. 15	T.D. 1,792 ft.; P.B. to 1,573 ft.; comp. 7 bbls. day on pump.
H. Wisdom's No. 2 fee, A. Darst Sur., 50 ft. E W line and 200 ft. N of No. 1	Shale 1,120 ft.; S.D.
H. Wisdom's No. 3 fee, A. Darst Sur.	Shale 130 ft.; no report.
H. Wisdom's No. 1 Proctor, 40 ft. out of SW cor. Blk. 1, A. Darst Sur.	Drlg. shale and lime 800 ft.

MANVEL—BRAZORIA COUNTY

Gulf Prod. Co.'s No. 1 Colby	Drlg. shale 4,874 ft.
Max O. Milner's No. 1 H. F. Stipp, 220 ft. W of E line and 195 ft. N of S line of Lot 28, H.&T.B. No. 23 Sur.	Location.
Texas Co.'s No. 11-B Belcher, 660 ft. S. 48 deg. 9 ft. E of B-10 and 330 ft. N. 41 deg. 51 ft. E of SW line of lease, H. N. Little Sur.	Rigging up.
Texas Co.'s No. 2 Boft, 200 ft. N and 24 ft. W of S line and 330 ft. S 41 deg. 51 ft. E from NE line of Lot No. 7 in Chas. O'Donnell Sur.	Set surface csg.
Texas Co.'s No. 2 Houston Oil Field Association, 247 ft. from N line and 247 ft. from S line and 441. ft. from W line of Lot 43, A.C.H.&B. Sur., Sec. 91	Drlg. gumbo 1,444 ft.
Texas Co.'s No. 1 Houston Oil Field Association, 330 ft. from W line and 265 ft. from S line of Lot 6, A.C.H.&B. Sur., Sec. 91	Drlg. sandy shale and lime 3,804 ft.

(Continued on Page 81)

put on pump at total depth of 3,445 feet. It had sand from 3,410-45 feet. The well was formerly carried to 4,750 feet in an effort to pick up the Cockfield production, but tested salt water from 4,207-12 feet. Humble's No. 3 McCasland, in the W. C. White Survey, was drilling shale 2,801 feet. Humble's No. 5-B Wilson was drilling shale 2,454 feet.

In the northeast part of the county, and northwest of Raccoon Bend, Irwin Hammock and associates are reported assembling a block around the James Cochran Survey A-146 for a Cockfield test. The Texas Company worked this area with torsion balance.

Waller County

In Waller County it is reported that Stanolind Oil & Gas Co. is preparing to move the derrick from its No. 1 M. Manor Heirs, recently abandoned wildcat, to Section 111 for a well.

Brazoria County

At Rattle Snake Mound, in Brazoria County, Amerada Petroleum Corp.'s No. 1 Houston Farm Development Co., in the L. Bachelder Survey No. 156, was drilling 1,500 feet in shale. This is to be an 8,000-foot test. Gillock Petroleum Co.'s No. 1 Frank Truksa, about 5 miles southeast of Alvin and in the eastern part of the county, has completed derrick.

West Columbia

At West Columbia, Mirimar Oil Corp.'s No. 3 Hogg topped sand at 4,840 feet and on a drill stem test from 4,837-4,901 feet in 10 minutes showed 20 fourbles of mud with a slight show of gas. At last report it was shut down. About a mile northwest of production, in the George Tennile Survey, Mirimar is reported to have leased the Phillips and J. A. Bordages 192-acre tract. Consideration was reported $100 cash and $100 out of oil per acre.

In the northeast part of the county and between Alvin and Manvel, Humble Oil & Refining Co. is reported working a reflection crew. Texas Co. is reported working a three-instrument torsion balance crew in the same general area. Harrison & Abercrombie are reported working a reflection crew in the S. F. Austin Survey.

Fort Bend County

Gem Oil Co.'s No. 1 Farmer, on a 3,000-acre block near Needville in Fort Bend County, set 10-inch casing at 517 feet and was waiting on cement. About 5 miles south of Needville, Wilks and others' No. 1 Norris was rigging up.

Jackson County

In the Vanderbilt area of Jackson County, Encio Gas Co.'s (Phillips Petroleum Co.) No. 1 Siedel & Simmons was circulating and waiting orders at 5,250 feet. The well was formerly drilled to 5,581 feet and tested salt water. No. 1 J. H. Drummond was waiting on cement at 1,150 feet. Turman Oil Co. and Turnbull & Irwin's No. 1 T. H. Miller in the Ray Musquiz Survey was moving in material.

Victoria County

In Victoria County and centering around the old Quintana Oil Co.'s No. 1 McCormic well, Steen Drilling Co. is reported to have paid F. J. Kohutik 25 cents per acre for a three-month option on the 18,000-acre block and the old well. The option is said to expire August 15, after which the contract calls for $2 per acre. It is reported the old well is standing with some oil in the hole and upon running the bailer to 1,000 feet one-half bailer of oil and half bailer of mud and water was recovered. Operators are preparing to complete the well for a gasser to supply fuel for the drilling of three tests on the block. The well set 9⅝-inch casing at 5,360 feet and on a test showed 1,500 pounds dry gas from 6,095-6,150 feet. It was then killed and deepened to 7,400 feet and abandoned. Humble has also drilled a well in the area that swabbed some oil but was abandoned.

Humble Oil & Refining Co.'s No. 1 Mitchell, in the E. Benavides Survey, has been abandoned as dry with a total depth of 6,005 feet. Humble is already moving in on No. 2 Mitchell, about a half mile south of No. 1. It is located 6,500 feet from northwest line and 7,000 feet from southwest line of the Mitchell 5,000-acre tract.

Brazos County

In Brazos County, Buck Wallace's No. 1 M. S. Broach, in the G. W. Singleton Survey, encountered a show of oil in the base of the Cook Mountain from 353-69 feet and was endeavoring to run casing and test. At last report casing was stuck at 337 feet.

Wharton County

At Louise in Wharton County, Pure Oil Co.'s No. 2 Wallace Houston in the T. W. Heard Survey No. 28, Abstract 509, has been completed for 79 bbls. oil per hour through three-eighths inch choke with 490 pounds tubing pressure.

Near Arnium and south of Wharton and west of Boling, Texas Co. is reported working a three-instrument torsion balance crew. Shell Petroleum Corp. is reported working a three-instrument torsion balance crew southeast of Wharton and near Dinsmore.

SOUTH LOUISIANA

At Roanoke in Jefferson Davis Parish, Shell Petroleum Corp.'s No. 1 Jernigan, an east offset to the discovery well, was drilling at 4,880 feet in sand and shale. Humble Oil & Refining Co.'s No. 3 Devilbiss, about three-quarters mile southwest of Shell's discovery, was drilling at 3,111 feet in shale. Humble's No. 1 Martin Kratzer, one-half mile southwest of Shell's discovery, was rigging up and preparing to spud. Shell is reported to have already started laying the 20 miles of welded 6-inch line from Iowa station to Roanoke.

On the southern part of the structure of the Welch Dome in Jefferson Davis Parish, Tide Water Oil Co.'s No. 1 Mrs. A. Bourgeois was coring in the Miocene at 5,325 feet. It had gas sand from 5,282-5,311 feet. From 5,282-5,302 feet there was no recovery but from 5,302-11 feet revealed a very good gas sand.

South of the old Hays prospect Shell Petroleum Corp. is reported working a three-instrument torsion balance crew in the north part of Township 11s-5w. Independent Exploration is reported working a reflection crew near Roanoke and in the northeastern part of Township 9s-4w.

About 10 miles east of De Quincy in Beauregard Parish, Federal Petroleum Co.'s No. 1 Lutcher-Moore Lumber Co. was drilling at 7,780 feet. About 6 miles to the north the same company's No. 1-B was rigging up. F. W. Martin and Richardson's No. 1 J. E. Cochran, in the western part of the county and about 6 miles south of Merryville, was shut down for fuel at 6,268 feet. Just across the Newton County line and in Township 2s-11w, Ohio Oil Co. is reported working a torsion balance crew. In the southeast corner of Beauregard Parish, Humble is reported working a four-instrument torsion balance crew in Township 7s-8w. Amerada Petroleum Corp. is working a reflection crew in the western part of Township 3s-10w.

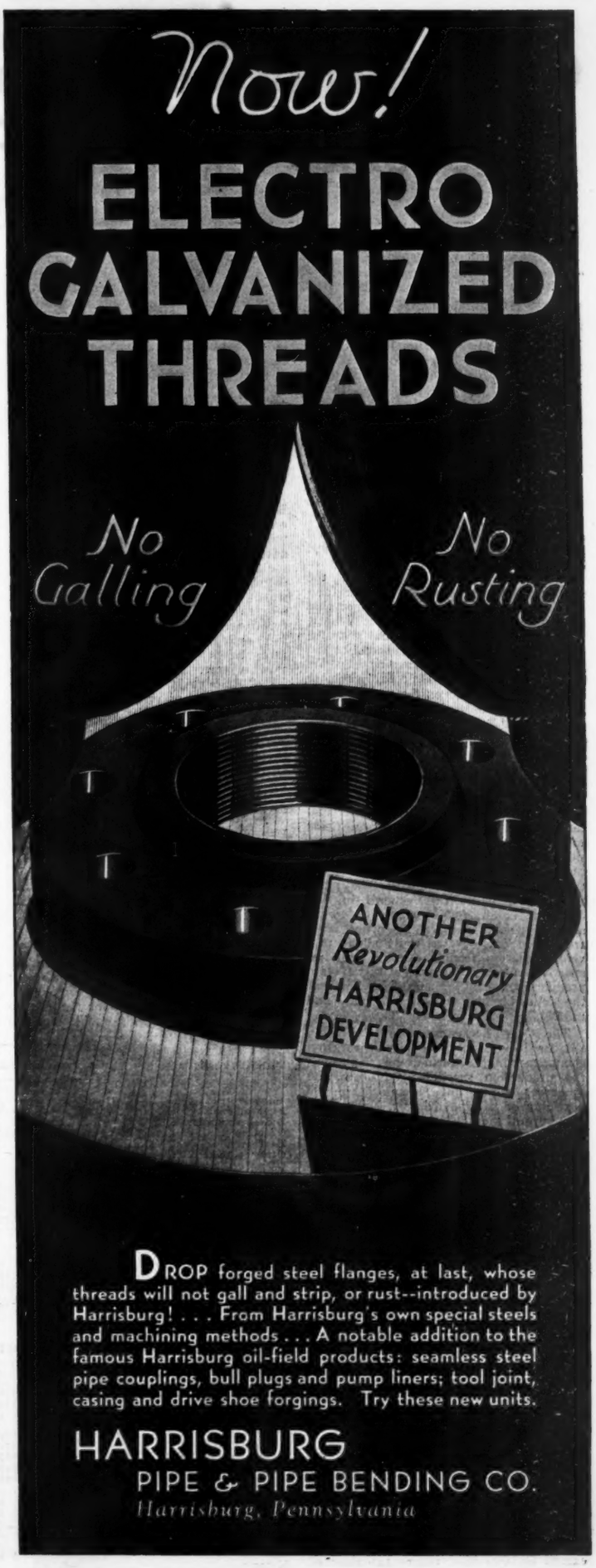
Mud Lake Area

In the Mud Lake area of the extreme southern part of Cameron Parish, Continental Oil Co. is reported to have taken leases on about 13,500 acres. The acreage lies west of Grand Chenier and east of Creole.

At Lockport in Calcasieu Parish, Strake Oil Co.'s No. 1 Miller in Section 8-10s-9w, has been abandoned as dry with total depth of 6,740 feet.

West of the Sulphur Mine Field the Union Sulphur Co. is reported to have leased 10 acres of an old railroad right of way for a well to be started by August 26. The strip is 165 feet wide and half-mile long.

At Gueydan in Vermillion Parish, Pure Oil Co.'s No. 6 Alliance Trust Co. was preparing to run 7⅝-inch casing with total depth of 7,669 feet. Casing will probably be set at 7,662 feet.


Now!
ELECTRO GALVANIZED THREADS
No Galling
No Rusting
ANOTHER Revolutionary HARRISBURG DEVELOPMENT
DROP forged steel flanges, at last, whose threads will not gall and strip, or rust--introduced by Harrisburg! . . . From Harrisburg's own special steels and machining methods . . . A notable addition to the famous Harrisburg oil-field products: seamless steel pipe couplings, bull plugs and pump liners; tool joint, casing and drive shoe forgings. Try these new units.
HARRISBURG
PIPE & PIPE BENDING CO.
Harrisburg, Pennsylvania

Operation of California Marketing Agreement Becomes Important Factor in Stabilization

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 9.—Operation of the new marketing agreement, which replaced the marketing cartel when the latter failed to receive official sanction, is rapidly becoming an important factor in the stabilization of marketing conditions and is greatly enhancing curtailment of production and regulation of refinery operations. The Pacific Coast Petroleum Agency began functioning July 1 and within another three weeks it should be in full swing as the rough edges will be smoothed off and the operating routine definitely established within the next fortnight. Independent refiners and members of the agency are co-operating splendidly and this will become evident in a more tangible form in the near future. The petroleum administrator is being represented in all meetings by W. H. Eaton, Jr., who will probably remain on the Pacific Coast as the personal representative of Secretary Ickes for some time.

Affect of the marketing agreement on crude oil production is especially pronounced, and while state production is averaging a little in excess of the allowable, much of this apparent overage is due to the completion of new wells and the policy of operators in several fields to produce most of their quota during the early part of the month and then taper off production operations during the latter part of each month. This practice has become rather general in San Joaquin Valley fields where the wells are rather small pumpers and where sand trouble in one or two wells might prevent operators from attaining their respective monthly quotas. On July 1, state production totaled 505,409 bbls., but rose the following day to 512,007 bbls. and to 524,981 bbls. on July 3.

The Central Committee of California Oil Producers, the recognized proration committee in California, has approved the production schedules for July and operators should have them within the next day or so at the latest. During the past several months, production schedules have not reached operators until some time after the month has been well under way, and consequently production during the first week of each month has been more or less out of line. In most cases, however, any overages or underages registered before receipt of the schedules are eliminated later in the month. This is due to the fact that more than 95 per cent of California operators are in sympathy with curtailment and consequently co-operate with Umpire Pemberton to the fullest extent. The small minority that has rebelled against curtailment will not be able to dispose of excess production as easily as heretofore, as practically all California refiners have agreed not to produce or buy any oil in excess of the amount prescribed by the curtailment committee.

Kettleman Hills

Two big wells were finished in the Kettleman North Dome Field during the early part of the current week, and judging by the number of wells scheduled for completion within the next 60 days it appears probable that the potential daily production of the North Dome will exceed 500,000 bbls. before the close of August. Kettleman Hills, due to consistent development and the rigidity with which operators have adhered to curtailment, has shown a steady increase in potential production from month to month. With approximately 10,000 acres of proved land, it is quite obvious that this field may be in a position to reach a tremendous potential especially since there are about 500 undrilled locations within the proved limits of production. In addition to the present productive Temblor, the underlying Eocene has exceptional production possibilities and may greatly increase both the potential and ultimate production of the field.

The largest new well this week was Kenda's No. 74-32 J, in the Huffman section of the field, which up to the present has shown the most prolific production. The Kettleman North Dome Association bottomed this new well at 8,689 feet and finished it with a 9⅝-inch water string landed at 7,714 feet and a 6⅝-inch liner including a series of perforations. The liner was landed at 8,688 feet and was perforated at 7,719-8,178 feet and at 8,289-8,688 feet. The well was brought in flowing through two 160/64-inch casing beans and two 128/64-inch tubing beans and registered a maximum rated potential of 14,759 bbls. of 34.6 gravity oil and 16,826,000 feet of gas per day. Production of the well was severely beaned back in conformity with curtailment immediately after the potential production test had been completed.

Standard Oil Co. completed its No. 58-27 J, in the North Dome, and this well was brought in flowing 8,558 bbls. of clean 33.6 gravity oil and 7,946,000 feet of gas per day from 8,570 feet. This well was finished with a 7-inch liner carrying perforations at 7,436-7,562 feet, 7,653-7,839 feet, 7,898-7,965 feet and at 8,054-8,554 feet. The Standard has several other wells scheduled for completion within the next three months. Superior Oil Co. should finish its last well in the North Dome within the next three weeks as it is within 500 feet of completion. The development program for the Kettleman North Dome Field provides for the drilling of one well to each 20 acres. It is quite likely, however, that if Eocene production is ultimately developed in this field a supplementary drilling program will be adopted providing for the completion of a like number of new wells in the lower horizon. Union Oil Co. is drilling two new wells in this field at present and still has another to complete before finishing its allotted quota of eight wells on the Amerada-King lease of 160 acres. On the Lillis-Welsh lease, the Union has decided to pull the string of 7-inch casing landed by the North Kettleman Oil & Gas Co. in order to facilitate operations. This should permit the Union to drill ahead without persistently encountering the fish lost by the original sponsors.

Edison District

It appears likely that the Edison district of Kern County will become a rather active area within the next 30 days due to the recent completion of two good wells and the possibility that additional production may be developed, as the productive limits of the district are still undetermined. Fortunately, the acreage in this section of the state is held in relatively large blocks by reputable operators and hence competitive drilling will not be necessary. The Edison area produces a heavy crude oil testing around 18 degrees A.P.I., although the Monterey Exploration Co.'s No. 3 Duff is producing an oil testing 22.1 degrees, and this district may become of more importance than preliminary work indicates. Three new wells are getting under way in the Edison district, and it is needless to say that drilling operations will be watched with keen interest. The Shell is starting two new projects on the Cauley and Duff leases and the A. T. Jergins Trust is making preparations to begin drilling No. 1 Dougherty in Section 14-30-29.

Lost Hills-Belridge

The General Petroleum has been experiencing considerable difficulty in making a conclusive production test on No. 1 Berry, a deep well in the South Belridge Field of Kern County, and the outcome is still in doubt. This deep well showed considerable promise just before the completion of drilling operations and consequently the company is not overlooking any bets in its attempt to develop commercial production. It is the present intention to pull tubing and remove the 4¾-inch liner if possible and then scrape the wall of the hole. If the well fails to show any kick after the walls have been scraped of the heavy mud, the company will probably add a little more footage before making a decision as to final disposition.

Several new wells are scheduled to be started in the North Belridge Field in the near future, but development work in this district is being held in restraint and consequently the field is not expected to become an important factor in the production situation for some time. Operators in the North Belridge Field are committed to a definite development program and will adhere to this as the acreage is held in large blocks by reputable operators. Continental Oil Co. has started drilling operations on its new well in the field as No. 5 Result was spudded in several days ago. The Standard has nearly finished rigging up rotary drilling equipment in No. 1 McPhail and should begin making hole within the near future. The Standard abandoned this location after drilling to 4,528 feet about two years ago but subsequent developments have tended to indicate that the location might show commercial production. The Union is putting the finishing touches on No. 18 Belridge and this deep well should be given a production test within 10 days with the outlook exceedingly promising.

Mountain View

Union Oil Co. has picked up the top of the upper zone in the Mountain View Field in No. 1 Wible, but the company has not decided whether to make a bid for production in the lower Kern River series or go on down to the underlying Santa Margareta. Sufficient oil sand has been encountered to make a commercial producer in the upper zone, but it seems likely that the company will drill to the lower zone as proven far more productive than the upper zone. Within 30 days the Union's No. 2 Kernco should be in a position to make a bid for production as this well recently passed the 2,200-foot level. No. 1 Kernco, the most westerly producer in the Mountain View Field, is flowing 225 bbls. of 21.3 gravity oil per day from 5,787 feet. This well showed up splendidly while drilling but the company was forced to install a pump to get production. The pump was in for only a few weeks when the hole sanded up. After being cleaned out, the well was returned to production flowing 698 bbls. per day. Since recompletion, it has held up in good shape although, of course, it is severely beaned down.

Barnsdall Oil Co., which recently located four new wells in the Mountain View Field and started building rig for the first of the quartet, has taken out drilling permits covering four new wells to be drilled in the Edison district. These wells, to be drilled at Edison, are No. 1 Russel in Section 27-30-29, and Nos. 1 and 2 on the Lawson lease and No. 1 Slininger in Section 26-30-29. Barnsdall acquired this acreage several months ago and it has taken on a more promising aspect since the recent completion of new wells on adjoining acreage. In the Mountain View Field, the Barnsdall should begin making hole in No. 1 Morris in Section 32-30-29, within 10 days. This well is located southeast of three

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	June 24		June 17		Total	
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	to date	last year
Fuel oil	339,352	48,479	116,656	16,665	7,644,512	805,661
Diesel and gas oil	.....	.....	.....	.....	931,159	1,085,064
Gasoline	533,916	77,702	.....	.....	3,555,524	4,357,319
Kerosene	.....	.....	.....	.....	568,197	496,994
Other finished oil	.....	.....	.....	.....	16,171	42,814
Other unfinished oil	.....	.....	.....	.....	.....	72,584
Foreign exports—						
Crude oil	74,797	10,685	297,098	42,443	3,746,510	3,485,734
Fuel oil	214,958	30,708	317,790	45,399	6,200,134	3,670,437
Diesel and gas oil	204,962	29,280	34,437	4,920	2,097,697	1,763,886
Gasoline	73,998	10,571	50,440	7,206	1,986,959	3,029,686
Kerosene	37,194	5,313	82,723	11,818	1,009,514	822,813
Other finished oil	.....	.....	.....	.....	3,529	.....
Other unfinished oil	.....	.....	.....	.....	127,271	34,547
Coastwise-domestic—						
Crude oil	155,523	22,218	266,182	38,026	4,739,656	4,456,650
Fuel oil	127,719	18,246	.....	.....	4,500,822	4,999,966
Diesel and gas oil	.....	.....	26,085	3,726	385,769	712,703
Gasoline	46,127	6,590	157,744	22,535	5,015,013	5,934,392
Kerosene	.....	.....	1,255	179	81,472	105,094
Naphtha distillates	.....	.....	.....	.....	.....	27,651

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	110,650	.....
Diesel and gas oil	.....	.....	.....	.....	448,113	280,531
Gasoline	73,181	10,454	.....	.....	145,806	500,966
Kerosene	78,914	11,273	78,914	11,273	355,326	482,430
Lubricants	.....	.....	.....	.....	18,331	16,400
Foreign exports—						
Crude oil	50,175	7,168	.....	.....	853,330	999,943
Fuel oil	76,142	10,877	20,880	2,983	839,792	361,366
Diesel and gas oil	35,366	5,052	.....	.....	714,520	584,718
Gasoline	153,950	21,993	.....	.....	1,728,352	2,246,644
Kerosene	25,108	3,587	.....	.....	402,334	526,180
Lubricants	.....	.....	.....	.....	72,395	74,112
Other finished oil	.....	.....	.....	.....	2,760	3,745
Other unfinished oil	.....	.....	.....	.....	5,750	19,166
Coastwise-domestic—						
Fuel oil	.....	.....	.....	.....	1,730,474	1,668,842
Diesel and gas oil	.....	.....	.....	.....	95,371	166,162
Gasoline	114,903	16,415	114,903	16,415	1,855,221	1,540,231
Kerosene	.....	.....	.....	.....	48,112	73,619

dusters drilled by the Shell, Mohawk and Hogan Petroleum Co. Hogan Petroleum Co., by the way, is not losing any time in offsetting the Barnsdall's No. 1 Mott, as both No. 3 Wharton and No. 4 Porter-Day are making hole. Judging by the location of these two offsets, they should result in commercial production as they are located nearer the top of the structure. At least one new well is expected to be finished in the Mountain View Field before the close of another week, and there is a good possibility another may be ready for production by that time.

Montebello

Status of the deep Cruz zone in the Montebello Field of Los Angeles should be fairly well determined within the next 30 days as the Standard will have two wells ready for production tests by that time and the Texas Co. should be able to complete its mechanical problem which has been delaying completion of No. 4 Barry. The Texas Co. has suspended drilling operations on No. 12 Baldwin and No. 10 Prugh in this field pending solution of the water problem that has proven so obstinate in its No. 4 Barry and the Universal Consolidated's No. 1 Cruz. If the performance of No. 1 Cruz during its brief period of production is any criterion, the Standard should develop substantial production on its properties, as these leases are located on top of the structure. Field men are not quite as optimistic over the production possibilities of the Cruz zone as they were a month or two ago due to the water problem which operators have encountered around the edge of the structure. However, this unfavorable condition does not mitigate against the development of commercial production nearer the apex of the anticline although there is a very definite indication that the areal limits of production will not be as large as originally anticipated. St. Helens Petroleum Co. and the Fullerton Oil Co. are making normal footage in their respective tests in this field.

Dominguez

Approximately five new wells are expected to be finished in the Dominguez Field of Los Angeles Basin within the next 30 days. In addition to these new wells, two former upper zone producers are expected to be completed in the lower zone. This work does not indicate the existence of a competitive drilling program in the Dominguez Field as the Union and Shell, which control approximately 90 per cent of the productive acreage, are limiting their operations to lease requirements. This work has become necessary because of a joker in the leases which provides that all drilling operations must be completed within a specified period of time. The leases permit the present operators to retain their properties as long as commercial production can be obtained, but no provision is made for subsequent deep drilling which might be warranted as a result of deep exploratory work in other fields of Los Angeles Basin. This is of especial importance because of the possibility that future work may prove up additional geological formations as productive.

In the Brea Olinda Field, which for several years was designated as the Fullerton Field, General Petroleum has spudded in No. 8-A Tonner, a direct line offset to Union Oil Co. properties, and the starting of this well may result in the latter company starting a new well also. It is the general belief that General Petroleum has started this well in order to determine the possibility of

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
General Pet., No. 9 Capitan, Santa Barbara Co.	32- 5-30	2,440	Sespe drilling
Shell Oil Co., No. 3 Capitan, Santa Barbara Co.	32- 5-30	831	sd. sh. drilling
Fields, O. C., No. 1 Casmalia, Santa Barbara Co.	13- 9-35	1,260	bailing
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	2,800	bl. sh. drilling
Barnsdall-Rio Grande, No. 8 Doty Elwood, S. Barbara Co.	15- 4-29	4,868	redrilling
Signal Oil & Gas Co., No. 2 Elwood, Santa Barbara Co.	tideland	5,415	suspended
Signal Oil & Gas Co., No. 3 Elwood, Santa Barbara Co.	tideland	69	suspended
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	2,399	cemented
Advance Pet. Co., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,134	suspended
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	512	sd. sh. drilling
Hastain & Stone, No. 1 Goleta, Santa Barbara Co.	9- 4-28	2,701	suspended
Union, No. 2 Santa Maria, Santa Barbara Co.	24-10-34	1,601	br. sh. drilling
Richfield, No. 1 Rincon, Ventura Co.	17- 3-24	2,607	will cement
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	redrilling
Continental, No. 3 San Miguelito, Ventura Co.	23- 3-24	4,336	hd. sd. drilling
Texas Co., No. 128 South Mountain, Ventura Co.	4- 3-19	rig	rigging up
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	1,062	hd. sh. drilling
Piru Oil Co., No. 1 Piru, Ventura Co.	14- 4-18	450	hd. sh. drilling
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	1,016	pumping test
American Drlg. Co., No. 1 Simi, Ventura Co.	6- 2-17	365	sd. sh. drilling
Prop. Services Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	3,202	sd. sh. drilling
Laing & Jacobs, No. 1 Shiells, Ventura Co.	32- 4-19	701	pumping wtr.
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	1,954	cleaning out
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	2,113	suspended
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	7,351	sd. sh. drilling
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	3,068	suspended
Shell Oil Co., No. 1 Gould Hills, Kern Co.	21-29-21	5,032	sd. sh. drilling
Standard Oil Co., No. 1 McKittrick, Kern Co.	15-30-22	2,930	will deepen
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,982	cleaning out
General Pet., No. 1 South Belridge, Kern Co.	30-28-21	11,377	prod. test.
Union Oil Co., No. 18 North Belridge, Kern Co.	36-27-20	7,824	cemented
Standard Oil Co., No. 1 North Belridge, Kern Co.	36-27-20	4,528	rigging up
Associated Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	7,858	suspended
Ohio Oil Co., No. 1 Buena Vista Lake, Kern Co.	31-31-26	7,957	plug 5,300
Caravel Pet., No. 1 Edison, Kern Co.	19-30-30	1,960	plug bottom
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-30-28	6,457	plug 4,040 ft.
Mountain View Dev. Co., No. 1 Mountain View, Kern Co.	12-30-28	4,136	sd. sh. drilling
Gilmore Oil Co., No. 1 Mountain View, Kern Co.	24-30-28	5,592	O. S. drilling
Union Oil Co., No. 2 Mountain View, Kern Co.	23-30-28	5,650	sd. sh. drilling
Union Oil Co., No. 3 Mountain View, Kern Co.	15-30-28	2,550	sd. sh. drilling
General Pet., No. 1 Mountain View, Kern Co.	14-30-28	130	sd. drilling
Barnsdall, No. 2 Mountain View, Kern Co.	32-30-29	mtl.	building rig
Hogan Pet., No. 5 Mountain View, Kern Co.	32-30-29	1,071	sd. sh. drilling
Standard Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	5,843	plug 5,564 ft.
Hoyt, Otis, No. 1 Mountain View, Kern Co.	19-30-29	2,116	sd. sh. drilling
Shell Oil Co., No. 1 Mountain View, Kern Co.	30-30-29	rig	rigging up
Monterey Exploration, No. 2 Edison, Kern Co.	22-30-29	923	sd. sh. drilling
Jergins Trust, No. 1 Edison, Kern Co.	22-30-29	1,080	sd. sh. drilling
Jergins Trust, No. 2 Edison, Kern Co.	14-30-29	mtl.	building rig
Shell Oil Co., No. 1 Edison, Kern Co.	16-30-29	mtl.	building rig
Commanche Oil Co., No. 1 Commanche, Kern Co.	15-32-29	3,685	sd. sh. drilling
Tejon Ridge Oil Co., No. 1 Commanche, Kern Co.	23-32-29	412	suspended
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	5,000	suspended
Russ Oil Synd., No. 1 Hewitt, Fresno Co.	28-12-11	4,004	suspended
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11	6,138	fishing D/P
Western Gulf, No. 1 S.P., Fresno Co.	15-17-15	8,868	wet
Union Oil Co., No. 1 Lillis-Kettleman, Freso Co.	24-21-16	10,944	prepare to plug
Texas Co., No. 1 Alcalde, Fresno Co.	1-21-14	rig	rigging up
Mustang Oil Co., No. 1 Alcalde, Fresno Co.	8-21-13	250	suspended
Farrel Pet., well No. 1, San Luis Obispo Co.	18-31-12	1,060	sd. sh. drilling
Willett Oil Co., No. 2 Cholame, San Luis Obispo Co.	10-25-15	920	sd. sh. drilling
Commonwealth Consd. Gas Co., No. 1 Tulare Lake, Kings Co.	21-22-20	1,580	suspended
Commonwealth Consd. Gas Co., No. 2 Tulare Lake, Kings Co.	21-22-20	....	portable outfit
Armadillo Oil Co., No. 1 Tulare Lake, Kings Co.	32-22-20	1,760	test W.S.O.
Tulare Basin Oil Co., No. 1 Tulare Lake, Kings Co.	2-23-19	1,192	suspended
Tulare Basin Oil Co., No. 2 Tulare Lake, Kings Co.	2-23-19	1,200	suspended
Kettleman Pac. Oil Co., No. 1 Tulare Lake, Kings Co.	11-23-16	900	sd. sh. drilling
Weller, Carl, No. 1 Tulare Lake, Kings Co.	11-23-16	871	sd. sh. drilling
Trico Oil & Gas Co., No. 1 Atwell, Kings Co.	33-24-22	1,183	sd. sh. drilling
Douglas, J. M., well No. 1, Monterey Co.	36-22- 9	4,000	br. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 3	6,760	suspended
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16- 1	2,731	gas, shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16- 1	4,350	andesite, drlg.
Milham Exploration Co., No. 1 Tracy, Santa Joaquin Co.	5- 4- 5	5,450	hd. sh. drilling
Tehama Pet., No. 1 Murdock, Glenn Co.	10-22- 5	620	suspended
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	4,370	sd. sh. drilling

IDECO - BOYKIN
DRAW WORKS
and
ROTARIES

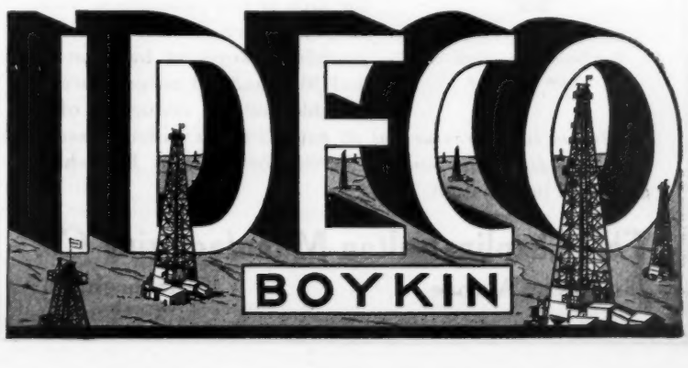
FOR stamina, speed and economy, there's no other equipment that can out-perform this team of IDECO-BOYKIN units. The sturdy IDECO-BOYKIN Draw Works, with its foot controlled clutches and positive action, water-cooled brakes, is just what you need—and the Rotary—either the Oil-bath straight type or the "Make-and-Break"—is absolutely without an equal for extra advantages and performance.

It will pay you to know these IDECO-BOYKIN floor units as well as the auxiliary equipment of derricks, crown blocks, traveling blocks, swivels, etc., which make up this famous high quality line.

Write our nearest branch for bulletins.

THE INTERNATIONAL DERRICK AND EQUIPMENT COMPANY
Beaumont, Texas
Columbus, Ohio Los Angeles, Calif.

Branches in all leading oil centers.



Are You Planning Any Pumping Installations?

If you are planning any pumping installations in East Texas or in the Gulf Coast area, you would find the experience and skill of this organization of much help to you.

Hundreds of installations under all kinds of conditions have given us a knowledge of what to do and what not to do. This knowledge not only costs you nothing but it may be the means of saving you a great deal of expense and grief.

Wire, Telephone or Write.

ENGINEERING CONSULTING — DEWEY T. ROSS CONTRACTOR TYLER TEX. — CONSTRUCTION INSTALLATION

Telephone 2100 – 3272

CITIZENS NAT'L. BANK BLDG. TYLER, TEXAS

For Remote or Exposed Places---

a Lighter, Simpler, and More Self-Protecting REGULATOR

Fulton Spring-Type Gas Regulator for High or Low Pressure

BECAUSE of lighter weight and greater compactness and because they are less subject to disturbance by meddlers when used in exposed places, spring-loaded regulators are sometimes preferable to those of the lever type. For such requirements the Fulton Spring Type Regulator will be found thoroughly dependable and satisfactory. Sizes, 2-inch to 3-inch, inclusive. Made for high or low pressure service. High-pressure reduces from 300 pounds to anything between 10 and 50 pounds. Low-pressure is suitable for the reduction of a *maximum inlet pressure of 50 pounds* to an outlet pressure *not exceeding one pound.* Write for Bulletin 118 which gives full information.

The Chaplin-Fulton Manufacturing Co.

28-40 Penn Avenue Pittsburgh, Pa.

completing new wells with substantial initials. This is of particular interest because the Tonner property adjoins fee holdings of the Union which this company repressured several years ago. The spudding in of No. 8-A Tonner is the first new drilling undertaken in this field in several years, and it would seem advantageous for all operators involved if another drilling and production moratorium could be approved by all operators in this field. Brea Olinda is especially suitable for restrictive operations as this field could be held back a little longer with beneficial results to all concerned.

Inglewood

Scientia Oil Co. has cemented a string of 13⅜-inch in its Inglewood test at 2,257 feet and may possibly make a production test in the near future as some rather good looking showings have been logged. This well is located around the edge of the structure and consequently the value of the showings can be determined only by an actual production test. During the coming week the Shell is expected to finish No. 16 Rindge in the Rindge zone and shortly thereafter the Standard should complete No. 105 Baldwin in the same horizon. This work is being done in conformity with the development program for this field which was approved a few months ago. The Standard is building rig for No. 28, to be drilled on Vickers Lease No. 1, and this project should be finished late in July or early in August as these relatively shallow wells finish around the 3,000-foot level require only a minimum amount of time between spud and completion. Baldwin Oil Co.'s No. 9 Inglewood came in wet on an open-hole test from 6,200 feet and the company is plugging the bottom of the hole. Pacific Western Oil Co., which started No. 17 Rubel as a deep Miocene test, is still drilling in its exploratory well, but will probably pick up the top of the Miocene somewhere around 5,000 feet. This well is believed to have definitely proved the existence of a third zone in the Inglewood Field, although the company did not stop progress of the drill to make a production test.

Standard Oil Co. added a new well to its list of producers in the Huntington Beach townlot section during the early part of the past week when No. 22 P.E. was brought in flowing 181 bbls. of clean 30.4 gravity oil and 6,500,000 feet of gas per day from 4,300 feet after the hole had been finished with a 5⅝-inch liner including 725 feet of perforated. This well failed to come up to expectations as the company would rather have had more oil and less gas. Completion of this well tends to indicate the probable extension of a cross fault or at least a faulted condition in the immediate area as other recent completions in the area to the east did not show the high gas-oil ratio registered by this project. Standard has two other wells under way in this field and has rig up for another on Lease B.

Long Beach

Two new wells were finished in the Long Beach Field during the current week but neither showed large production. Alsier Oil Co.'s No. 1 Signal was brought in on the beam pumping 280 bbls. of clean 29.6 gravity oil per day from 4,990 feet while the Italo Petroleum Corp.'s No. 1 fee was finished pumping 80 bbls. of fluid per day cutting 40 per cent from 4,275 feet. There are still a number of incompleted drilling projects under way in this field but there has been a noticeable tendency during the past several weeks to concentrate work on old wells which require reconditioning work instead of undertaking new drilling. This is due to some extent to the fact that favorable drilling sites are not as numerous as heretofore. The Texas Co. and Shell are both reconditioning a number of old wells and the latter is erecting a new rig for No. 1-A Horsch and another for No. 6 Kent-Garth.

In the Santa Fe Springs Field, the General Petroleum recompleted No. 137-B Santa Fe after cleaning out the hole to bottom, 5,213 feet, and this well was returned to production pumping 93 bbls. of 27.1 gravity oil per day. Union Oil Co. spudded in two new wells in this field during the current week and now has four strings of tools in operation on the Bell lease. Continental Oil Co. has been experiencing considerable difficulty with No. 32 Bixby in the Seal Beach Field and apparently is not over the top yet as the well came in wet again this week when the company tested out the effectiveness of the plug which filled the hole from 6,582 feet to 6,445 feet. Wilshire Oil Co. succeeded in reconditioning the hole following stuck drill pipe in No. 2 Potrero, a deep test which the company is drilling in the Potrero Field of Los Angeles Basin, and is again drilling ahead. The Wilshire is expected to take this well down to at least 9,000 feet unless subsurface formations prove unfavorable. The Union is building rig for No. 6 Del Rey, to be drilled in the Playa Del Rey Field, and spud is expected to be made within the next 10 days. G. W. Houser has taken over the Cole lease in the Athens section of the Rosecrans Field and is building a new rig over the Big Five Oil Co.'s No. 4 Cole, which was abandoned as a duster several years ago. This well is in the eastern section of the field and seems to warrant the drilling of a deep test.

Gas Production

Two wells, Standard's No. 45, in Section 15-30-22, in the McKittrick area, and Ohio Oil Co.'s No. 1 K.C.L., in the Buena Vista Lake region, tend to indicate the possible discovery of new gas

(Continued on Page 71)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Vanco Dev. Co., No. 1 Artesia, Los Angeles Co.	25-	3-	12	rig	suspended
Woodward Oil Co., No. 1 Athens, Los Angeles Co.	12-	3-	14	2,481	sd. sh. drilling
Houser, G. W., No. 1 Athens, Los Angeles Co.	18-	3-	13	4,037	rig, abd. hole
Dominguez Oil Co., No. 1 Dominguez, Los Angeles Co.	34-	3-	13	4,770	suspended
Quinn, J. R., No. 1 Dominguez, Los Angeles Co.	3-	4-	13	4,587	redrilling
Nudson, T. T., No. 1 Inglewood, Los Angeles Co.	17-	2-	14	3,020	plug 2,390 ft.
Baldwin Oil Co., No. 1 Inglewood, Los Angeles Co.	7-	2-	14	6,200	tested wet
Scientia Oil Co., No. 1 Inglewood, Los Angeles Co.	7-	2-	14	3,131	hd. sh. drilling
Pacific Western, No. 1 Inglewood Deep, Los Angeles Co.	8-	2-	14	4,000	sd. sh. drilling
Plymouth Oil Co., No. 1 Inglewood, Los Angeles Co.	8-	2-	14	4,596	sd. sh. drilling
Wilshire Oil Co., No. 2 Potrero Deep, Los Angeles Co.	27-	2-	14	7,473	sd. sh. drilling
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34-	1-	11	7,447	bailing
Universal Consd., No. 1 Montebello Deep, Los Angeles Co.	5-	2-	11	7,505	plug 6,950 ft.
Universal Consd., No. 2 Montebello Deep, Los Angeles Co.	5-	2-	11	6,950	suspended
Universal Consd., No. 3 Montebello Deep, Los Angeles Co.	5-	2-	11	7,680	tested wet
Texas Co., No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	6,943	recemented
Standard Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	5,700	hd. sd. drilling
St. Helens, No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	4,602	sd. sh. drilling
Fullerton Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	3,016	hd. sh. drilling
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7-	2-	11	1,500	suspended
Midfield Oil Co., No. 1 Pico, Los Angeles Co.	19-	2-	11	4,897	suspended
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30-	2-	9	3,064	cleaning out
Barstow Oil Co., No. 1 Saugus, Los Angeles Co.	35-	5-	16	2,136	suspended
Barstow Oil Co., No. 2 Saugus, Los Angeles Co.	35-	5-	16	rig	suspended
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34-	5-	16	2,063	sd. sh. drilling
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland			3,985	redrilling
Nuoil Co., No. 1 Newport, Orange Co.	29-	6-	10	6,455	repair rig
Platt & Collins, No. 1 Costa Mesa, Orange Co.	14-	6-	10	320	sd. drilling
Explorers Oil Co., No. 1 Fairview, Orange Co.	9-	6-	10	904	cleaning out
Speik Oil Co., No. 1 Fairview, Orange Co.	9-	6-	10	1,102	suspended
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31-	3-	9	4,521	suspended
Mid-Rich Drlg. Co., No. 1 Atwood, Orange Co.	26-	3-	9	1,685	sd. sh. drilling
Union Oil Co., No. 1 Coyote, Orange Co.	22-	3-	10	3,496	sd. sh. drilling
Bridger, J., No. 1 Coyote, Orange Co.	15-	3-	10	3,703	suspended
Severns Drlg. Co., No. 3 Coyote, Orange Co.	24-	3-	11	3,051	sd. sh. drilling
Great American Pet., No. 1 Chino, San Bernardino Co.	18-	2-	8	2,642	suspended
Great American Pet., No. 2 Chino, San Bernardino Co.	18-	2-	8	3,100	fishing D/P
Tehama Pet., No. 1 Santa Ana Canyon, San Bernardino Co.	33-	2-	8	1,861	sd. sh. drilling
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-	18-	2	4,000	fishing D/P

All Five Completions in North Louisiana Were Dry Holes; Another Gasser in Mississippi

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., July 9. — This division experienced a period of watchful waiting during the past week, due to a number of interesting wildcats coring for the expected pay sand. None of the important tests was either condemned or proven in the North Louisiana district, but developments in at least four of them should result one way or the other within a few days, probably during the present week.

NORTH LOUISIANA

The Eastern Texas Production Co.'s No. 1 Givens estate, Section 2-17-4, in the western part of Lincoln Parish between the towns of Ruston and Simmsboro, is being watched closely to determine whether or not the Blossom or Woodbine sands in the upper Cretaceous will pay off in that area. All such tests to the east and southeast in Bienville Parish have been failures. The present test topped the chalk at 2,316 feet with the base at 2,763 feet, and is coring for the Blossom sand, expected below the 2,800-foot level. The contract calls for a 3,500-foot hole which will also contact the Woodbine horizon. The wildcat is located on a 16,000-acre block on what is known as the Grambling structure. The acreage was assembled by J. P. Evans of Shreveport, and a part of it consigned to the Eastern Texas Production Co. to drill the test.

In the nortnern part of Bossier Parish, L. M. Moffitt and others' No. 1 Antrim Lumber Co., Section 26-22-12, topped the Nacatoch at 1,792 feet and is coring for the Blossom slightly below the 2,600-foot level. The Ohio Oil Co. and the Magnolia Petroleum Co. each own a one-third interest in the 17,000-acre block on which the test is located. The contract calls for a 3,200-foot test which will also contact the Woodbine. In the same parish, the Producers Oil & Gas Co.'s No. 1 W. H. Werner, Section 7-17-11, about 1½ miles northeast of production in the Sligo gas field, is drilling in lime and shale at 3,812 feet and should contact the gas-bearing Oolitic lime in the Glen Rose of the upper Trinity within the next 400 feet. The test is attempting to extend the deeper gas production from the limits of the Sligo Field which produces from at least four horizons. Two Trinity wells have been completed within the proven area. The same company's No. 1 Leviston, Section 13-16-12, in the Elm Grove Field south of the Werner test, tested dry from 2,425 to 2,503 feet, and is temporarily shut down.

Deep Test Coring

Plummer & McDaniel's No. 1 Walmsley, Section 45-10-8, Natchitoches Parish, is drilling below 4,400 feet and taking cores continuously. The test is located in the Spanish Lake area near Powhatan and about 8 miles northwest of the town of Natchitoches where several shallow gas wells have been drilled in within the last few years but were eventually ruined by salt water. It is reported that the rig and equipment on this wildcat is capable of making 7,000 feet or more which will be the ultimate depth unless pay is encountered at a lesser depth. In the Marthaville area of the same parish, Roy A. Raines and others' No. 1 I. D. Raines estate, Section 28-9-10, logged the top of the marl at 2,257 feet and is coring ahead. Other North Louisiana wildcats follow: DeSoto Parish — Gaskill and others' No. 1 Jim Guy, Section 3-11-13, running tubing to test at 1,735 feet; George LeGrand's No. 1 D. T. Fulmer, Section 1-11-16, tested salt water at 2,255 feet and plugged back to 1,965 feet; the Texas Co.'s No. 13-A Wemple, Section 1-12-12, set 10-inch surface casing at 53 feet and is drilling at 865 feet. Morehouse Parish—Zeiger & Bacon's No. 1 Crossett Lumber Co., Section 41-23-6e, is coring at 2,880 feet; Ouachita Parish, Wilson & Mitchell's No. 1 Williams, Section 5-16-1e, arranging to use acid at 2,763 feet. Red River Parish—Louis L. Glass' No. 1 Dickson, Section 32-12-8, set 12½-inch surface casing at 84 feet and drilling at 400 feet. Winn Parish—Red River Refining Co.'s No. 1 Tremont Lumber Co., Section 35-11-1w, drilling at 355 feet after setting surface casing at 63 feet. Vernon Parish—Anderson & Kerr Drilling Co.'s No. 1 Miller, Section 25-2n-9w, drilling at 3,760 feet.

Five Completions, All Dry

Five completions comprised the North Louisiana list, all of which were dry holes. Two of the dusters were rank wildcats in widely separated areas and the Zwolle Field of Sabine Parish reported three dry holes which failed to contact a producing crevice in the chalk rock. The Hibeltha Oil Co.'s No. 1 Z. B. Woodward, Section 26-15-9, about 6 miles south of the town of Ringgold in Bienville Parish, was dry and abandoned at 3,602 feet. In the southern part of Natchitoches Parish, Penn-Southern Petroleum Co.'s No. 1 Chopin Lumber Co., Section 4-5n-5w, reached the contract depth several weeks ago without encountering a show of any consequence and was abandoned at 3,525 feet. The well was on a block that adjoined to the northwest a test drilled several months ago by George Stevens and others, and the log shows that there was very little variance in the two wildcats. The base of the Jackson was logged at 1,288 feet, base of the Sparta sand at 2,950 feet, and top of the Cane River at 3,113 feet and the top of the Wilcox at 3,277 feet. This area had been looked upon with favor as a potential field, many operators believing that an east shore line structure, similar to the East Texas west shore line condition, might exist in this part of Natchitoches Parish. The Zwolle dry holes were all in the eastern part north of the town of Many. Two of them were abandoned in chalk rock after the use of acid, and another encountered salt water in the sand below the chalk after failing to get a well in the latter. R. E. Collins' No. 1 A. M. Thigpen, Section 29-15-12, DeSoto Parish, is temporarily abandoned as dry at 2,805 feet, but there is a possibility that the well may be deepened.

Only three new locations were staked in the North Louisiana district, all of them wildcats or attempts to extend production from proven territory. F. M. Crow's No. 1 Biedenharn, Section 23-21-14, on the western edge of Bossier Parish, has set 10-inch surface at 40 feet and is drilling at 900 feet. The well is several miles east of the Hosston area in Caddo Parish and between that field and the Bellevue shallow producing field to the east in Bossier Parish. In Sabine Parish, G. W. Longley has spudded in on his No. 1-A Peavy-Wilson, Section 16-5-9, and is drilling at 1,850 feet.

ARKANSAS

The Miller and Lafayette areas of Southwest Arkansas are experiencing a temporary lull in operations while titles are being worked out and several new tests, staked recently, are rigging up. Earl F. Fox has spudded in on his No. 1 Coleman Brothers, Section 36-16-25, west of Lewisville in Lafayette County, which is one of a series of wildcats south of the Balcones or Humble fault to be watched closely during the next month. The Miller County proven area east of Texarkana appears to have two more producers with two wells waiting for standard rig to pump, while one test in that area developed salt water when tested. The latter, Magnolia Petroleum Co.'s No. 3 Olivet, Section 4-16-26, tested salt water from 2,940-59 feet and is shut down at the total depth. In Union County, Mrs. R. K. Jones and others' No. 1 Davis, Section 28-16-14, is arranging to test 6 feet of sand encountered from 2,758-64 feet.

Union County furnished the only producer out of two completions in the Arkansas district. The McCreslenn Oil Co.'s No. 2 Atkins, Section 3-18-13, in the Urbana Field, is pumping 175 bbls. of pipe line oil from a total depth of 3,569 feet. A Calhoun County wildcat, the Mid-American Oil Corp.'s No. 1 Plunkett, Section 15-14-15, was dry and abandoned at 3,004 feet.

MISSISSIPPI

This district had two completions resulting in a dry hole on a wildcat test and a gas well in the Rankin area of the Jackson Field. In Franklin County, E. R. Ratcliff and others' No. 1 Homochitta Lumber Co., Section 20-5n-5e, was abandoned as dry at 4,625 feet. The Love Petroleum Co.'s No. 2 fee, Section 1-5n-1e, in the Jackson area, gauged 39,000,000 feet of dry gas from 2,407 feet.

The Clarke County Oil Co. is rigging up on its No. 1 Kirkland, Section 10-2n-16e, in Clarke County, and Snow Black Petroleum Co. is drilling at 1,120 feet on its No. 2 Watson, Section 24-7n-13w. The Berry Corp.'s No. 2 R. T. Berry, Section 33-2n-4e, is arranging to drill plug and test after setting 7-inch casing at 2,048 feet. United Gas Public Service Co.'s No. 1 Davis, Section 30-1n-5w, is drilling at 7,150 feet on the deepest test yet drilled in this district. A wildcat in Issaquena County, the Pelican Oil & Gasoline Co.'s No. 1 Steel Bayou Corp., Section 14-12n-8w, is drilling in sandy shale at 2,810 feet.

ALABAMA

Magnolia Petroleum Co.'s No. 1 Scotch Lumber Co., Section 17-10n-3e, located on a block of 70,000 acres in Clarke County, is drilling in chalk at 2,700 feet. Rice Oil & Gas Co.'s No. 1 Oakley estate, Section 9-3n-29e, Houston County, set 10-inch surface casing at 80 feet and is drilling at 1,710 feet.

Crude Oil Production

Estimated daily average production for the week ending July 7 follows:

NORTH LOUISIANA

	Bbls.
Caddo light	4,515
Caddo heavy	1,555
Converse	1,630
Cotton Valley	550
DeSoto and Red River	1,510
Elm Grove	370
Haynesville	3,860
Holly	170
Homer	2,640
Pleasant Hill	215
Sarepta-Carterville	720
Urania	2,965
Zwolle	4,320
Total	25,020

SOUTH ARKANSAS

Champagnolle	1,240
El Dorado	2,440
Lisbon	375
Miller County	1,675
Nevada	925
Smackover light	2,435
Smackover heavy	19,800
Stephens	625
Urbana	2,365
Total	31,880

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Haas & Stokes' No. 1 Lindstrum Land Co., 690 ft. S, 930 ft. E. NW cor. Sec. 34-1n-4e. Set 12-in. 40 ft.

BIENVILLE PARISH

Hibeltha Oil Co.'s No. 1 Woodward, 300 ft. S, 600 ft. E, NW cor. Sec. 26-15-9. Dry and abd. 3,602 ft.

BOSSIER PARISH

Bossier O. & G. Co.'s No. 1 Sherrill, 300 ft. S and W, NE cor. Sec. 13-9-12. S.D.; W.O. 2,261 ft.

Ford & Hanover's No. 1 Cryer, 330 ft. S and W, NE cor. NW SW Sec. 25-19-12. S.D. 875 ft.

Howard & Baird's No. 1 Gold, 150 ft. S and E, NW cor. Sec. 36-20-13. Set 12½-in. 120 ft.; drlg. 450 ft.

McKinney & Stewart's No. 1 Nattin, 470 ft. W, 630 ft. S, NE cor. Sec. 22-22-14. Coring 2,885 ft.

Moffitt et al's No. 1 Antrim, 330 ft. N and W, SE cor. SW NE Sec. 26-22-12. Drlg. 2,520 ft.

Producers O. & G. Co.'s No. 1 Werner, 660 ft. N and W, SE cor. Sec. 7-17-11. Drlg. 3,812 ft.

Producers O. & G. Co.'s No. 1 Leviston, 660 ft. N and W, SE cor. Sec. 13-16-12. S.D.; W.O. 2,502 ft.

O. F. Shaver's No. 3 Elston, Sec. 16-19-11. Testing 412 ft.

CADDO PARISH

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. Sec. 15-20-15. Tested S.W. 1,560 ft.

W. T. Bell et al's No. 1 Bostick, 1,320 ft. E, 660 ft. N, SW cor. Sec. 12-22-16. Tested dry; W.O. 2,526 ft.

Burkett O. & G. Co.'s No. 1 Lindholm, 400 ft. S and E, NW cor. NE SE Sec. 15-17-14. S.D. 1,046 ft.; repairing rig.

Capitol O. & G. Co.'s No. 1 Noel Est., 300 ft. S and E, NW cor. NE Sec. 12-20-16. S.D. for fuel 200 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16. S.D. 2,128 ft.

Simplex Oil Co.'s No. 9 Youree-Randolph, 660 ft. S and W, NE cor. SE Sec. 13-20-16. Tested dry 2,323 ft.; P.B. to 1,848 ft.

CALDWELL PARISH

Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 200 ft. W, SE cor. NW NE Sec. 15-11-3e. Fishing for D.S. 2,355 ft.

DE SOTO PARISH

L. H. Alderson's No. 1 Peek, SE cor. NW NE Sec. 25-11-13. S.D. for wtr. 3,030 ft.

R. E. Collins' No. 1 Thigpen, 515 ft. N, 970 ft. E, SW cor. NW NE Sec. 29-15-12 S.D.; W.O. 2,805 ft.

Dempsey & Manziel's No. 1 Thigpen, 375 ft. S, 330 ft. W, NE cor. SW NE Sec. 33-13-13. S.D. for wtr. 1,605 ft.

Gaskill et al's No. 2 Guy, 370 ft. S and W, NE cor. NW SE Sec. 3-11-13. Arranging to test 1,735 ft.

Geo. M. LeGrande's No. 1 Fulmer, 200 ft. N and W, SE cor. NW SW Sec. 1-11-16. Tested S.W. 2,255 ft.

Texas Co.'s No. 13-A Wemple, Sec. 1-12-12. Set 10-in. 53 ft.; drlg. 645 ft.

J. S. Tuffree's No. 1 McGill, 450 ft. N, 150 ft. W, SE cor. SW SE Sec. 1-10-13. S.D. 2,125 ft.

LINCOLN PARISH

Eastern Texas Prod. Co.'s No. 1 Givens Est., SW cor. NE Sec. 2-17-4. Coring 2,792 ft.

MOREHOUSE PARISH

James A. Noe's No. 1 Dalton, 3,445 ft. N, 805 ft. W of common cor. Sec. 41-21-5e. Comp. 13,000,000 ft. gas. 2,285 ft.

(Continued on Page 86)

Thirteen Completions in Lower Eastern Fields; Most of the New Work Is in West Virginia

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 9.—There were 13 completions in the lower eastern fields of which five were producers with an initial production of 83 bbls. In addition, there were four dry holes. A few old wells were reconditioned and some shot with acid, all with fair results. Most of the new work was in West Virginia.

WEST VIRGINIA

Four producers were completed in West Virginia. In Center district, Calhoun County, the scene of some recent heavy new wells, Hope Construction & Refining Co. completed No. 4 on the Mary A. Stump farm at a total depth of 2,110 feet, the Berea sand. The top pay at 2,060 feet showed for only 3 bbls. a day and it was drilled deeper. The lower pay resulted in a total production of 15 bbls. a day. It is 175 feet west of Godfrey L. Cabot, Inc.'s No. 1 A. H. Blackshere, which came in at several hundred barrels a day and which is still a fair well.

In Clay district, Ritchie County, G. A. Smith and others drilled their test on the F. M. Wince farm in the top of the Injun sand and have a producer estimated good for 25 bbls. a day.

In Wetzel County, State Line Oil & Gas Co. completed a test on the G. W. Kirkhart farm in Church district in the Fifth sand at a depth of 3,295 feet, showing for a 1-bbl. pumper.

In Wood County, John Leeton and others completed No. 5 on the John Coplin farm in Walker district in the Maxon sand at a depth of 1,811 feet. After shot it is showing for 2 bbls. a day.

In DeKalb district, Gilmer County, South Penn Oil Co. cleaned out its No. 4 on the R. J. Ellis farm and shot it. It increased production from about 5 to 25 bbls. a day.

In Smithfield district, Roane County, Sandy Run Oil & Gas Co. treated No. 1 on the Josephine Young farm with acid and it began flowing. It was completed in the Keener sand in February as a good gas well with a showing of about 4 bbls. of oil a day. About 14 drums of acid and 120 bbls. of oil were used in the treatment and half of the oil has been recovered in the flow.

Gas Wells

In Boone County, Pure Oil Co. completed No. 66 on the Federal Coal Co. tract in Sherman district in the Weir sand at a depth of 3,043 feet. It is showing for 250,000 feet a day.

In Cabell County, the test of the Ora Ann Gas Co. on the George H. Midkiff farm in McComas district proved dry at a depth of 1,562 feet. In Calhoun County Starcher and Richards completed a test on the James Wilson farm in Center district in the Injun sand at a depth of 2,154 feet, showing for about 212,000 feet a day natural.

In Clay County, Godfrey L. Cabot, Inc., drilled No. 9 on the Hill-Long lease in Pleasant district through the Big Injun sand to a total depth of 2,651 feet. It is a light gasser. In Kanawha County, this operator completed No. 43 on the Arabella D. Huntington lease in Cabin Creek district in the Big Lime at 2,110 feet. It is a fair gas well, gauging about 740,000 feet a day.

In Ritchie County, Hardman and Starcher completed a test on the Roy Livingstone farm on Dutchman Run in Murphy district in the Injun sand at 1,980 feet. It is a small gas well.

In Tyler County the test of the Ohio Oil & Gas Co. on the Rebecca Ash farm in Meade district proved dry. It was drilled through the Squaw sand to a total depth of 1,742 feet.

In Wetzel County, Ray Hennen and others drilled No. 1 on the Jesse Parrish farm in Proctor district through the Gordon sand to a total depth of 2,907 feet. It was dry in all sands.

In Gilmer County, the test of McCall and others on the E. C. Rohrbough farm in Center district, 1½ miles northeast of the producers, which was reported as a gas well, is now showing for 250,000 feet a day from the Injun sand.

In Geary district, Roane County, the second test of Frank Finley and others on the W. Hunter Smith farm, which was reported as a producer in the Big Lime, was drilled to the Injun sand in search of additional pay. The Injun sand proved dry but it will produce about 10 bbls. a day from the Big Lime.

Drilling in West Virginia

In Boone County the test of Godfrey L. Cabot, Inc., on the Sidney White farm in Washington district is drilling at 2,175 feet. In Sherman district, this operator has reached 2,668 feet in No. 53 on his lease on the Federal Coal Co. property with a rig standing for No. 54. In No. 3 on the J. Q. Dickinson farm, same district, the depth is now 2,125 feet. This operator has a rig standing for No. 3 on the Central Trust Co. lease. In the same district Pure Oil Co. is drilling at 487 feet No. 68 on the Federal Coal Co. tract and at 1,619 feet in No. 67. This company is rigging up No. 2 on the Lafollette, Robson and Prichard tract C, and has part of the materials on the ground for a second test on A. M. Prichard farm.

In McComas district, Cabell County, three wells are drilling. The H. H. Baker Gas Co. is down 1,500 feet on the Augusta Beckett farm; R. H. Adkins and others are drilling at 1,420 feet on the C. P. Rousey farm and West Virginia Gas Co. has reached 1,000 feet in the second test on the John J. Porter farm. In Barbourville district, United Fuel Gas Co. is rigging up for No. 4,390 on the J. W. Starkey farm, the test on which in Guyandotte district was a fair gas well.

In Calhoun County, few wells are drilling. In Sherman district, Mollahan and Poling are drilling on top of the Injun sand on the Johnathan Burrows heirs farm. H. B. Scott is down 400 feet on the P. Fling heirs farm. Kenny Hunt and others are rigging up on the Glen Wilson farm. In Lee district, Jarvis and Ayers are building a rig on the Roanna Robinson farm. Mudlick Oil & Gas Co. has reached 1,500 feet in a second test on the Almeda Meadows farm. In Washington district, Ohio Valley Gas Corp. remains shut down for water on the N. L. Norman farm, a test.

In Gilmer County, Center district, E. D. Norman and others have made a location on the Huld Moore farm, the surface now being owned by Frank Stewart. It is 10,000 feet northeast of the present new production. In DeKalb district, McCall Drilling Co. has a rig completed for No. 4 on the Lee Gainer farm on Tanner Creek. On the same creek in this district, Clem S. Morris and others are rigging up No. 4 on the Cora B. Gainer farm. A. E. Ellis and others have part of the material on the ground for a test on the Edward Reynolds farm.

In Harrison County, Raad and Moses are down 1,900 feet in a second test on the A. P. W. Flanigan farm in Ten Mile district. In Lincoln County, Kanawha Gas & Utilities Co. is drilling at 1,311 feet on the W. S. Snodgrass farm in Sheridan district, a test.

In Kanawha County, Godfrey L. Cabot, Inc., is drilling No. 7 on the Campbells Creek Coal Co. tract in Malden district and in the same district No. 6 on the William P. Tompkins farm which has reached 1,050 feet. The same operator has two wells drilling on the Arabella D. Huntington lease No. 44 at 1,875 feet, and No. 45 at 410 feet, and two more locations plotted.

In Marion County, Carnegie Natural Gas Co. has started No. 2 on the Martha E. Keenan lease in Mannington district. In Monongalia County, Harry L. Tennant is shut down at 2,930 feet for cable in No. 5 on the Wise and Tennant lease in Battelle district. In Clay district, Chartiers Oil Co. has started spudding on the Simon Shriver heirs farm.

In Ritchie County, L. P. Bickle has made a location on the P. W. Morris farm in Murphy district and has started drilling a test on the Mary Miller farm, same district. W. H. Bickle has made a location for No. 3 on the U. S. Fluharty farm. In Clay district, Smith and Hendershot have made a location on the Charles Wilcox farm. Robert E. Elder reached 1,000 feet on the J. W. Leonard farm and shut down. In Grant district, Adams and Satterfield are drilling at 1,600 feet on the A. L. Mullenaux farm, a test, and L. N. Rinehart has reached 1,780 feet on the W. E. Rinard farm. Horner and Hank are down 1,795 feet on the J. W. Alkire farm. Gillman and others are drilling at 500 feet on the Stephen Gillman farm.

In Pleasants County, Tate and Patterson have started drilling on the David M. Dye farm in Washington district. In this district, Dinsmore & Co. are drilling No. 5 on the A. J. Boley farm.

In Roane County, Oil City Trust Co. has started drilling No. 18 on the B. C. Tucker farm on West Fork River in Spencer district. J. D. Silcott and others are fishing for the tools on the John B. Lukens farm which has reached 1,725 feet. On Little Creek, O. G. Epling and others have started drilling on the L. P. Starr farm. In Curtis district, Henderson Oil Co. is down 855 feet on the E. S Ball farm, a test. In Smithfield district, Howard Bartlett and others have made a location on the Anna Brannon and others lease. Law and Lester shut down at 623 feet for water on the O. M. Tatterson farm, a test. It is in Reedy district.

SOUTHWEST PENNSYLVANIA

There were several completions in Southwest Pennsylvania, one a fair producer. In Amwell Township, Washington County, Philadelphia Oil Co. drilled deeper No. 1 on the Hulda Jenkins farm after packing off the gas in the Gantz sand. The Pittsburgh Coal was at 735 feet. The top of the Fifth sand was at 2,944 feet with oil showing at 2,946½ to 2,949 feet. The total depth is 2,959½ feet. It is showing for about 40 bbls. a day. At present, it is held up with a fishing job for the lost bit.

In the same township, Carnegie Natural Gas Co. stopped their test on the N. B. Redd farm, scheduled for the Fifth sand, in the Salt sand at 1,788 feet. There was about 3,000,000 feet a day between 1,779 and 1,783 feet which will be used and later drilled down. Southwest of these wells, No. 4 on the G. L. Walker farm drilled by Raymond Orrill and Co. proved dry in the Fifth sand at 2,974 feet. There was only a showing of oil and the hole will be plugged. Nearby on the Mary B. Lindley farm, Union Gasoline & Oil Corp. has reached 2,995 feet in a second test on the farm. The top of the Fifth sand is at 1,993 feet and it does not appear to be a producer although No. 1 was a large one.

In South Franklin Township, Furman Nuss & Co. drilled deeper No. 1 on the S. C. Weir farm from the Fifty-foot sand down to a total depth of 3,127 feet. The Pittsburgh Coal is at 858 feet. It was dry in the lower sands and after being shot in the Nineveh Thirty-foot sand shows for only about 35,000 feet of gas in that formation.

(Continued on Page 71)

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ended June 30 totaled 343,707,000 bbls., an increase of 591,000 bbls. over the total of 343,116,000 bbls. on hand at the end of the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. This increase, which followed a decrease of 372,000 bbls. during the previous week, comprised an increase of 241,000 bbls. in stocks of domestic crude oil and an increase of 350,000 bbls. in stocks of foreign crude oil.

Current reports of the industry indicate that crude oil production for the week ended June 30 was slightly below that for the week ended June 23, that imports of crude increased but that runs to stills were materially reduced. The approximate daily average balance of crude oil during the week ended June 30 was as follows (barrels): Production, 2,640,000; imports, 128,000; equal runs to stills, 2,495,000, increase in stocks, 84,000; exports, losses, etc., 189,000.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

Stocks held by reporting companies

Grade of crude oil—	June 23, 1934 (bbls.)	June 30, 1934 (bbls.)	Change from June 23, 1934 (bbls.)
Pennsylvania Grade	4,666,000	4,676,000	+ 10,000
Other Appalachian, including Kentucky	1,180,000	1,232,000	+ 52,000
Lima-Northeast Indiana-Michigan	1,473,000	1,495,000	+ 22,000
Illinois-Southwest Indiana	11,343,000	11,236,000	—107,000
North Louisiana and Arkansas	10,875,000	10,866,000	— 9,000
West Texas and Southeast New Mexico	29,115,000	29,216,000	+101,000
East Texas	42,095,000	41,256,000	—839,000
Other Mid-Continent	161,104,000	161,705,000	+601,000
Gulf Coast	16,330,000	16,699,000	+369,000
Rocky Mountain	27,878,000	27,826,000	— 52,000
California	33,845,000	33,938,000	+ 93,000
Total domestic crude	339,904,000	340,145,000	+241,000
Foreign crude	3,212,000	3,562,000	+350,000
Total crude	343,116,000	343,707,000	+591,000

Hobbs Pool Is Extended Half Mile to the West; Show of Oil Near Florence Field, Colorado

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., July 9.—Noble Brothers' No. 2 Shell-State, an outside well in the northwestern part of the Hobbs Pool, an offset to No. 1 Shell-State, which extended the pool a half mile to the west, was completed for 9,736 bbls. of oil and 12,585,000 feet of gas. The Skelly Oil Co.'s No. 2 Turner, an edge well in the southeastern part of the field, made 2,462 bbls. initial after being treated with acid. There was one new location in the Hobbs Pool. One well began spudding in Curry County, and one dry hole was reported in San Juan County. A 100-bbl. well was reported on the Stoney Buttes structure in San Juan County.

A show of oil in the Pennsylvanian formation near the old Florence Field in Fremont County, Colorado, again is attracting some attention.

There were no completions or new locations reported in Wyoming.

Five completions, all in the northwestern part of the field, and two new locations were reported in the Cut Bank area, in Montana. The completions were better than the average. Location for a wildcat in Cascade County was released and two new locations were reported in the Devon district in Toole County.

NEW MEXICO

Eunice Area

Texas Co.'s No. 1 Rector, C NE SE Section 30-21-36, has derrick completed, and the Repollo Oil Co.'s No. 1 State, NE NW NE Section 19-21-36, is drilling at 2,400 feet in salt. The Gypsy Oil Co.'s No. 1 Bell-State, C SW SE Section 8-21-36, is drilling at 3,774 feet in lime. The Continental Oil Co.'s No. C-20 No. 1 State, C NW NW Section 20-21-36, began spudding June 27 and is bottomed at 312 feet in red rock with the 13⅜-inch cemented at 307 feet with 200 sacks. The Continental's No. A-17 No. 3 Meyers, C SW NW Section 17-21-36, is waiting at 3,819 feet, total depth after cementing the 7-inch at 3,809 feet with 400 sacks. The Atlantic Oil Producing Co.'s No. 2-B State, C NE SE Section 8-21-36, is drilling at 3,890 feet in lime. The Ohio Oil Co.'s No. 2 State-McDonald, C NW SW Section 14-22-36, is building rig.

Hobbs Area

Noble Brothers' No. 2 Shell-State, C E half NE SW Section 24-18-37, an outside well on the northwestern side of the Hobbs Pool, made 9,736 bbls. of oil and 12,585,000 feet of gas flowing open, after being treated with acid. The total depth is 4,171 feet, in lime. Through the tubing it made 3,499 bbls. The well is an offset on the south to the same firm's No. 1 Shell-State, which made 12,600 bbls. initial. The last named extended the pool half a mile to the west. The Gypsy Oil Co. and the Texas Pacific Coal & Oil Co. have the offset acreage on the east.

The Skelly Oil Co.'s No. 2 Turner, C NE NW Section 34-18-38, an edge well in the southeastern part of the field, in the Hobbs townsite, had an initial production before treating of 10 bbls. an hour at 4,203 feet, total depth. It was treated with 2,000 gallons of acid and responded with 2,462 bbls. in 24 hours through the tubing with 4,966,000 feet of gas.

The Gypsy Oil Co. is digging cellar and pits for its No. 3 East Grimes, NW cor. NE Section 33-18-38, on the eastern side of the field, half a mile east and the same distance north of the nearest producers.

The Shell Petroleum Corp.'s No. 3 Berry, NE cor. SE Section 31-18-38, is drilling at 3,785 feet in anhydrite, and the Repollo Oil Co.'s No. 3 Grimes, SW NW NW Section 28-18-38, is drilling at 3,399 feet in anhydrite. The Continental Oil Co.'s No. 1 Grimes, SW cor. SE Section 28-18-38, is shut down at 3,500 feet. The Gypsy Oil Co.'s No. 8 West Grimes, NW SW NW Section 32-18-38, reported a completion last week and making 17,625 bbls. a day on a company test, was given an official gauging and made 6,026 bbls. and 8,893,000 feet of gas through the tubing and 14,386 bbls. and 17,048,000 feet through the casing.

Jal Area

The Repollo Oil Co.'s No. 1 Stephens, SW cor. NE Section 13-25-36, which was reported a completion last week at 3,325 feet, with an initial production of 170 bbls. an hour through the tubing on a company gauge, was given an hour's test for proration in which period it made 190 bbls. of oil and 6,000,000 feet of gas. This was at the rate of 4,560 bbls. a day, making it one of the two largest wells in the pool. E. B. Guess and others' No. 1-B Conditt, NW NE SE Section 11-25-36, is spudding at 35 feet in sand. The Continental Oil Co.'s No. 13-A No. 1 Sholes, C SW SE Section 13-25-36, is bottomed at 3,251 feet in lime and fishing for 500 feet of drill stem and bit.

Lea Area

Texas Co.'s No. 2-B Lynch, C SE SW Section 27-20-34, plugged back from 3,750 feet to 3,656 feet and shot the hole at 3,570-3,610 feet with 100 quarts. It is running tubing to test. The same company's No. 1 Lea, SW cor. NW Section 14-20-34, is shut down at 3,659 feet in lime repairing engine.

Cooper Area

Texas Co.'s No. 1 Ogg, C SW NE Section 35-24-36, is rigging up rotary. The Phillips Petroleum Co.'s No. 1 Woolworth, NW cor. SW Section 23-24-36, is rigging up rotary, and the same company's No. 2 Woolworth, NW NE SW Section 23; No. 3 Woolworth, SW cor. NW Section 23; and No. 4 Woolworth, C SW SW Section 23, are building rigs. The Humble Oil & Refining Co.'s No. 1 Cooper is building rig.

Curry County

George Schoonmaker and others' No. 1 Hart, C SE SE Section 13-2n-32, Melrose district, spudded to 55 feet, in sand, and shut down to get titles in shape. There are 12,000 acres in the block. Flaherty Brothers, of Tulsa, have the contract.

Guadalupe County

The Anton Chico Development Co.'s No. 1 Anton Chico grant, NE cor. SW Section 20-9n-17, which has been shut down for a year at 2,587 feet, is reported to have resumed and to be cleaning out at 1,100 feet inside the 12½-inch. It shut down to change over to rotary, pull the 8¼-inch and drill deeper with an 11-inch bit.

San Juan County

A press dispatch from Gallup, N. Mex., says that the Reserve Oil Co. has a 100-bbl. well on the Stoney Buttes structure in southern San Juan County. This company was reported last April to have rig up for its No. 4, W SE SE Section 36-22-14w. The location is just a few feet from a well drilled in 1928 by the Midwest Refining Co. in its No. 22, which had a show of oil at 780-90 feet, and another for 42 bbls. a day of 35 gravity oil at 833-60 feet in a sand in the Mesa Verde. This well was carried to 3,060 feet where it encountered a flow of water amounting to 5,000 bbls. a day. The well was sold to the Indian Department for a water well. It did not reach the Dakota, which was expected at around 3,800 feet. In the same 40 as these two wells, the Reserve Oil Co.'s No. 3 was completed in 1931 at 816 feet after plugging back to shut off bottom water, for an estimated production of 25 bbls. daily. Litigation delayed further exploration until recently.

R. C. Oswell's No. 5 Government, NE SE NE Section 33-30-11w, Aztec district, was completed at 1,350 feet for 7 bbls. a day on the pump, and the Continental Oil Co.'s No. 35, SE NE SE Section 2-29-19, Rattlesnake Dome, was dry and abandoned at 940 feet. Its No. 36, SW cor. NW Section 12-29-19, is setting up machine.

COLORADO

Fremont County

The Waterville Oil Co., which recently reported a show of oil in its No. 1 State, SE cor. NW Section 16-18-69, Phantom Canon district, north of the Florence Pool, this week began an interesting experiment in an effort to stop the hole from caving without running pipe so it can find out what the discovery amounts to. Several weeks ago C. T. Frederickson, president of the company, reported to the state land board that at 2,780 feet a good showing of oil was encountered. The drillers noticed several puffs of gas coming from the hole and pulled the tools to run the bailer and see what was happening. The bailer came up about half full of oil. Operations were at once suspended as there was 445 feet of open hole below the 5¼-inch at 2,300 feet and caving was taking place. Efforts to finance a string of 3½-inch casing brought forth a request for more information as to the extent of the oil showing. The bailer was again run, but would not go below 35 feet off bottom. It again, however, brought up some oil. Last week it was run for the third time, but the hole had filled with cavings for 80 feet off bottom The bailer showed about a gallon of oil.

Sample of oil from the Waterville well brought to the state land board were of dark brown color and approximately 40 degrees gravity. Samples from the bottom of the well were sent to the School

Production From Alberta Fields Shows Slight Decline During Month of May

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, July 7.—Official figures of crude oil production from all Alberta fields in May show a slight decline from the April totals, being 104,598 bbls. compared with 106,443 bbls. in April. Turner Valley naphtha dropped from 102,091 bbls. to 99,750 bbls. and Turner Valley light crude declined from 1,765 bbls. to 1,544 bbls. Production of light crude from the Red Coulee and other border areas was down from 2,080 to 2,032 bbls., while the output of Wainwright heavy crude increased from 507 to 1,272 bbls.

Royalite Oil Co.'s output amounted to 46,337 bbls., including recoveries at the absorption plant regardless of the source of the gas and production from wells of other companies recently purchased by the Royalite company. In the border areas, the Red Coulee Field supplied most of the production; a new feature was a production of 191 bbls. from Nordon-Roney's No. 2 Twin River. The Wainwright Field has five wells on production, the increased yield being largely due to the steady market for heavy crude offered by the new Gold Standard refinery.

Mar Jon Section

In Section 28-18-2w5, South Turner Valley, Spooner Oils' No. 5 Anaconda, LSD 1, is drilling below 4,800 feet. Immediately west, Carleton Royalties' No. 1, LSD 2, rotary test in charge of Hilary Head, is spudding, offsetting Highwood-Sarcee's No. 1 producer to the northwest. On the western edge, Richfield Royalties' No. 1, LSD 5, cable tool test, is drilling below 3,425 feet. East of this, British Dominion Oil & Development Corp.'s No. 4, LSD 6, is drilling below 1,500 feet. Further east, Pacalta Oils' No. 1, LSD 7, is drilling out cement at 5,055 feet. Publix Oil & Gas Co.'s No. 1, LSD 8, is carrying casing below 3,920 feet, with shows of oil and gas.. In the northwest corner, Turner Valley Royalties' No. 1 Bell & Brown, LSD 13, is drilling below 2,500 feet. Century Royalties' No. 1, LSD 14, is drilling the crooked hole sands below 5,320 feet. In the northeast corner, Directors Royalties' No. 1, LSD 16, is redrilling below 3,133 feet.

Far South Tests

In Section 21-18-2w5, Highwood-Sarcee Oils' No. 1, LSD 16, is below 5,578 feet, more than 230 feet in the lime with no additional production. Myers & Wright's No. 1 Pacalta, LSD 14, same section, has cemented casing at 573 feet. Further south, Union Freehold Oil Corp.'s No. 1, LSD 8, is carrying casing below 3,265 feet. Northwest Royalties' No. 1 Prairie, LSD 5, is drilling below 254 feet. Highwood Royalties' No. 1 Oliver, LSD 3, furthest south test, is drilling below 345 feet.

South Turner Valley

In the Mercury tract, Mercury Oils'

(Continued on Page 73)

Announcing....

A new Seismic Reflection Equipment, complete with necessary accessories

Write NOW for details

AMERICAN ASKANIA CORPORATION

HOUSTON, TEXAS • CHICAGO, ILLINOIS

CONSTANT

research in field and laboratory, the use of superior crude oils, and the most modern refining equipment are the three stones in the foundation upon which Humble quality has been built.

HUMBLE

OIL AND REFINING COMPANY

HOUSTON, TEXAS

Producers, Transporters, Refiners and Marketers of Petroleum and Its Products.

of Mines at Golden for analysis, but the formation could not be identified on account of the cavings. Frederickson said that the drill made only 2 inches of hole after the gas appeared and that the cuttings which came up with the oil the first time the bailer was run showed a little white lime and sand which, he believed, was the top of the equivalent of the Tensleep in Wyoming.

Grand County

The Colorado Oil Refining Co.'s No. 1 Linke, NE SW SW Section 13-1n-77, Granby district, is drilling at 585 feet in gray-blue shale. It continues to have shows of oil in the shale. The first objective is a sand in the Pierre at 1,200 feet.

Routt County

Texas Co.'s No. 1 Sampson, SE NE SE Section 2-1s-85, King Mountain, is drilling in hard red sand at 66 feet. It starts in the Pennsylvanian and is being drilled with cable tools. Same company's No. 5 Carstarphen, NW NE NW Section 5-6n-86, Tow Creek, is drilling at 2,730 feet.

Moffat County

The Stanolind Oil & Gas Co.'s No. 6 Parkinson, Lot 37, SW Section 23-4n-92, Iles Dome, is bailing after setting the 8⅝-inch at 3,314 feet with 250 sacks. The hole was cored at 3,306-16 feet and total depth is 3,318 feet. The top of the Sundance was at 3,311 feet.

Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, Hiawatha district, is drilling at 1,340 feet. The Mountain Fuel Supply Co.'s No. 4 Wilson, C NE NW Section 32-12-100, cemented the 10¾-inch at 2,304 feet and is waiting.

Jackson County

The Continental Oil Co.'s No. 3 Hoye, NW cor. NE Section 34-9-78, South McCallum Dome, is moving in materials, rigging up rotary and laying water lines. The Continental's No. 1 Sherman, C NW NW Section 12-9-79, North McCallum, the discovery well in this district which came in in 1926 as the famous ice cream well on account of carbon dioxide being mixed with the oil, is producing around 30 bbls. a day to furnish fuel for drilling No. 3 Hoye. That is all the Government will permit the company to produce at this time. There is a plant at the well for condensing the oil out of the frozen state by use of steam.

WYOMING

Albany County

The Ohio Oil Co.'s No. 1 Chappell, C SE NW Section 28-21-76, East Rock Creek, is drilling at 3,200 feet in the red beds.

Big Horn County

In the Garland-Byron district, Crosby & Huntington's No. 1 Denio, Tract 43-C, Section 15-55-97, is waiting at 1,150 feet after cementing the 12½-inch at 1,100 feet. W. O. Taylor and others' No. 1 Hoskins, SE SE Section 25-56-97, has recovered the 10-inch casing and is drilling below the old bottom at 2,855 feet in an 11-inch hole with rotary. The Ohio Oil Co.'s No. 2 Byron Union, C SE NE Section 22-56-97, has rig completed. The Yale Oil Corp.'s No. 1 Blakesley, NE NW Section 28-49-91, Bonanza district, has rig up.

Carbon County

The Ohio Oil Co.'s No. 1 Sid Morris, C NW SE Section 6-20-77, Diamond Dome, is drilling at 1,435 feet in shale, and Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 4,836 feet after underreaming the 4¾-inch to bottom.

Fremont County

The Monongahela Oil Co.'s No. 1 Wisda, NE SE SE Section 13-28-93, Crook's Gap district, is drilling at 1,400 feet.

Hot Springs County

The Argo Oil Co.'s No. 10 Ellen, NW SE NW Section 14-44-98, Hamilton Dome, is drilling at 1,650 feet, and the California Exploration Co.'s No. 1 Government, NE SE NE Section 12-44-97, Waugh Dome, is drilling at 1,450 feet.

Lincoln County

H. M. Eller's No. 1 Government, SE cor. SW Section 32-19-116, Cumberland district, which recently was reported a completion, is making 20 bbls. a day on the pump. Corrected total depth is 300 feet. The oil is reported to test 50 degrees gravity and operations are expected to be profitable for that size well on account of the grade of the oil and the shallow depth. He is starting a second well and plans to build a skimming plant.

Sweetwater County

The Vermillion Oil Co.'s No. 1 State, SW cor. Section 16-12-99, Hiawatha district, which has been shut down for more than a year at 4,685 feet, has let contract to A. B. Friz for the erection of an 84-foot steel derrick to replace the old wooden derrick preliminary to drilling deeper. At 3,510-40 feet a show of oil and 50,000 feet of gas was reported. Oil rose 300 feet from another sand at 3,885-3,920 feet.

MONTANA

Glacier County

Five completions, all in the northwestern part of the field near the western edge of the developed area, and two new locations were reported in the Cut Bank Field. Lon Crumley's No. 2 Weaver, Lot 8, Section 27-35-6w, is pumping 65 to 70 bbls. daily from sand at 2,907-38 feet. Texas Co.'s No. 3 Antrim, E SE SE Section 34-35-6w, swabbed 192 bbls. the first 24 hours from a total depth of 2,945 feet, and the same company's No. 3 Purdy, W NW SW Section 35-35-6w, swabbed 171 bbls. the first 24 hours from pay at 2,880-2,927 feet. Texas Co.'s No. 1 M-357 Morrison, NE SW SE Section 22-35-6w, pumped 52 bbls. the first 11 hours from the pay at 2,827-78 feet. The same company's No. 3 fee, 660 feet south of C Section 15-35-6w, swabbed 47 bbls. first 11 hours at a total depth of 2,911 feet.

The two new locations are the Texas Co.'s No. 4 Hinkle, C SE NE Section 2-34-6w, and the P-M-K Petroleum Co.'s No. 1 Mattson, C NW NW Section 14-34-6w.

The Alberta-Pacific Consolidated Oil Co.'s No. 4 Mattson, W SW NW Section 14-34-6w, is drilling at 2,150 feet, and P. B. Anderson and others' No. 1 Anderson, SW cor. NW Section 26-35-6w, is drilling at 2,680 feet. Annand & Hutchings' No. 1 Bonnett, NW cor. SE Section 10-32-5w, is drilling at 2,770 feet, and their No. 1 Federal Land Bank, NW NW SW Section 11-34-6w, is drilling at 275 feet.

A. B. Cobb's No. 3 Walberger, NE SW SE Section 35-35-6w, is spudding at 275 feet, and the Consolidated Gas Co.'s No. 2 Ewing, SE SE Section 34-35-6w, has rig on location.

The Dakota-Montana Oil Co.'s No. 3 Gilham, NE NE Section 3-34-6w, is standing after finding the lower Cut Bank dry at 2,884-2,920 feet.

W. M. Fulton and others' No. 2 Haggerty, C NW NW Section 15-34-6w, is waiting after cementing the 10-inch at 660 feet.

The Grant Oil Co.'s No. 2 Yunck, C SW SW Section 14-34-6w, is spudding at 180 feet.

The Indian Oil Co.'s No. 1 fee, C SE SE Section 4-34-6w, is drilling at 2,225 feet, and its No. 1 Reickhoff, SW SE Section 3-34-6w, is standing rigged.

Lawler & Hoerr's No. 1 Harland, C SW SW Section 5-33-5w, is standing rigged.

The Montana Headlight Oil Co.'s No. 2-A Williams, C NE NE Section 11-34-6w, is spudding at 180 feet, and its No. 2 Yunck, C NW SW Section 1-34-6w, is drilling at 2,050 feet. The Montana Power Gas Co.'s No. 1 Fuller, near C SE Section 17-33-5w, is drilling at 1,900 feet, and its No. 1 Hawkins, C SW Section 17-33-5w, is drilling at 1,350 feet, and its No. 1 Whetstone, C SE NE Section 7-33-5w, is drilling at 1,000 feet.

Nadeau Brothers' No. 3 Van de Mar, W SW NW Section 35-35-6w, is drill-

ing at 2,475 feet, and Nyhagen-Bell's No. 3 Anderson, NE NW SW Section 26-35-6w, has rig on location.

The Olive Oil Co.'s No. 1 Mattson, W NW NW Section 14-34-6w, is spudding at 175 feet.

The Par Oil Co.'s No. 3 Haines, SW cor. Section 2-34-6w, is drilling at 2,695 feet, and the Producers Development Syndicate's No. 1 Eniarson, SW NW NW Section 29-32-4w, has cleaned out to bottom at 2,697 feet and resumed drilling.

The Santa Rita Oil & Gas Co.'s No. 2 Hardy, SW NE Section 27-35-6w, is drilling at 2,240 feet, and its No. 3 Whetstone, C NE NE Section 27-35-6w, is bottomed at 2,160 feet at which depth it was standing when the forge and engine houses were burned down.

R. C. Tarrant's No. 4 Britton, C SW SW Section 12-34-6w, is still a location, and his No. 2 Getty, NW cor. SE Section 2-34-6w, is drilling at 250 feet. Same operator's No. 1 Jones, C SW SE Section 31-34-5w, is drilling at 2,055 feet. Texas Co.'s No. 4 Antrim, C Lot 3, Section 34-35-6w, is standing with the 7-inch cemented at 2,918 feet, and its No. 1 Consolidated Gas Lease, 105 feet west of C Section 15-35-6w, is drilling at 1,865 feet. Same company's No. 2 fee, Lot 8, Section 15-35-6w, a recent completion, is pumping 100 bbls. daily. Texas Co.'s No. 1 Kearns, W SW NW Section 23-35-6w, is standing cemented at 2,804 feet, and its No. 2 Kearns, W NW NW Section 23-35-6w, is drilling at 145 feet. Same company's No. 1 M-358 Morrison, Lot 5, Section 22-35-6w, is drilling at 280 feet, and its No. 4 Purdy, SW SW Section 35-35-6w, is drilling at 2,020 feet. Texas Co.'s No. 1 Schlag, C SW SW Section 26-35-6w, made 10 bbls. over night after a shot at 2,920 feet, total depth, and was shot again with 20 quarts.

Carbon County

The Ohio Oil Co.'s No. 14 Maddox, C NW NW Section 10-7s-21, Dry Creek, is drilling at 3,818 feet in shale.

Cascade County

A new location in the Crown Butte district is reported in Ralph Chamberlain and others' No. 1, C SE Section 6-19-2w. It is 2 miles southeast of a test drilled in 1929 by the Piegan Oil Co. in NW NE Section 36-20-3, which was dry at 2,767 feet.

Judith Basin County

Fletcher E. Hunt's No. 2 Hobson, NE SW SE Section 20-14-15, Hobson district, is drilling at 700 feet.

Liberty County

J. H. Hamilton and others' No. 1 Northern Farms, C NE SW Section 10-37-5e, Flat Coulee, set the 12½-inch on top of the Colorado at 620 feet.

Pondera County

The Barmac Oil Co.'s No. 1 Bruning, C SW SW Section 1-31-5w, Valiers district, topped the Colorado at 335 feet and set the 12½-inch at 360 feet. The California Co.'s No. 1 Northwestern Properties Co., SW NE SE Section 20-28-4w, North Pondera, is drilling at 2,015 feet.

Teton County

Ned Cheadle and others' No. 1 Balsinger, NE SE NW Section 20-27-5w, West Pondera, is drilling at 2,000 feet.

Toole County

Two new locations in the Devon district were reported by C. Leonard Smith and others in their No. 1 Eckholt, SE Section 6-33-2e, which is moving in, and No. 1 Federal Land Bank, NE NE Section 11-33-1e, which is rigging up. Bruce P. Radigan and others' No. 1 McDonough, NW cor. Section 17-33-2e, is running the 5⅛-inch at 1,420 feet, total depth. The two upper sands were dry. Thelan & Freeman's No. 1 Johnson, NW NE NE Section 29-33-2e, is spudding at 200 feet.

Vanderpas & Hepstad's No. 6 Helgerson, NW SE SW Section 28-35-1w, Kevin-Sunburst Field, which recently was completed for only 6 bbls. a day from sand at 1,350-65 feet and considered not commercial, was treated with 600 gallons of acid and responded by flowing 74 bbls. in four hours. The Imperial Oil Co.'s No. 1, C NE NE Section 19-35-1w, is spudding.

Eastern Fields

(Continued from Page 68)

In Greene County a local company drilled No. 1 on the L. C. Rainey farm in Springhill Township deeper from 1,848 feet or the Injun sand. The total depth was 3,016 feet with the top of the Fifty-foot sand showing at 2,370 feet and gas at 2,440 to 2,445 feet. It gauged at 105,000 feet a day. The South Penn Oil Co. reached 3,005 feet in drilling the J. C. Barrickman deeper. The top of the Gordon sand was at 2,978 feet and the bottom 2 998 feet. The top of the Fourth sand was at 3,000 feet. In Center district, J. B. Orndoff reached 1,775 feet on the W. H. Scott farm and shut down cementing.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is spudding on the Farabee farm and has hauled in the machine for the test on the A. M. Cole farm.

In North Franklin Township, Washington County, Furman Nuss & Co. have reached 948 feet on the Jason Buchanan farm. The top of the Big Dunkard sand was at 935 feet with the Pittsburgh Coal at 508 feet. E. H. and J. B. Tague are drilling at 538 feet in the No. 11 on the Adaline D. McKennan estate.

In Fayette County, Carnegie Natural Gas Co. is shut down in the Coal at 1,027 feet on account of the gas in the test on the George N. Boyd farm in Jefferson Township. There has been gas in most of the formations on the way down beginning at 200 feet.

In Perry Township, Greene County, Carnegie Natural Gas Co. is drilling deeper the No. 1 on the E. D. Patterson farm. It is 2,194 feet deep with gas and a showing of oil at 2,182 to 2,186 feet.

California Fields

(Continued from Page 66)

zones which may become of commercial importance at a later date. Ohio Oil Co.'s well, in the extreme eastern end of Buena Vista Lake, was started as a test for oil but was plugged back following mechanical trouble at 7,957 feet and appears to be capable of producing approximately 6,000,000 feet of gas per day from the 5,300-foot level. The Standard's McKittrick wildcat was started strictly as a test for gas and seems to have found a sufficient amount of dry gas to indicate commercial possibilities. The Standard has killed this well, however, and will deepen it as an exploratory well. Shell Oil Co. is still drilling in its No. 1 Premier, a wildcat, in the Gould Hills area, but this well, which recently passed the 5,000-foot level, is not deep enough to prove especially interesting.

The Mount Poso Field of Kern County will continue relatively active during the next several months due to new work being started by the Union, Shell, Associated and other operators. Most California operators recognize the necessity of building up a reserve of heavy crude oil in order to meet the increasing demands of eastern operators for California fuel oil, and Mount Poso is one of the finest fields in the State for this purpose as it is one of the few fields that yields heavy oil and still has plenty of undeveloped acreage to justify additional drilling. Associated Oil Co. is opening up a number of its old heavy oil producers in the Kern River Field and is putting its properties in this district in good shape. Kern River, one of the State's oldest fields, never was a model for cleanliness, but after several years of inactivity and rejuvenation work undertaken a few months ago this field can now take rank with the best of regulated fields.

Drilling operations in the coastal area have shown a consistent increase during the past several months, in sympathy with similar operations in other fields of the State, and this district should continue relatively active during the remainder of the year. Operations in the Elwood Field are being held down to a minimum as the petroleum administrator has not yet approved a definite program for normal development of the deep Sespe zone. The Santa Barbara Mesa Field should also continue active for the next several months as the recent completion of several excellent wells should stimulate further exploration. Drilling activities in the Santa Maria Field depend to a large extent upon the outcome of drilling operations on the Moretti property by the Union Oil Co., as wildcat operations in this section are more or less limited to a few prospective areas. The Standard and Shell each have one well under way in the Goleta district.

Ventura Avenue

The deep 57 zone in the Ventura Avenue Field has proven sufficient attraction to warrant the drilling of several wells to this horizon and it is quite likely that the Associated, Shell and General Petroleum will each finish at least one new well in this zone before the close of the year.

RYERSON STEEL

IMMEDIATE SHIPMENT FROM STOCK

Bars, structurals, rails, sheets, plates, special alloy and tool steels, stainless steel (Allegheny metal) sheets, bars, etc., shafting, welding rod, babbitt, boiler tubes and fittings, wire, reinforcing bars, pipe, copper, brass, turnbuckles, metal working tools, etc.

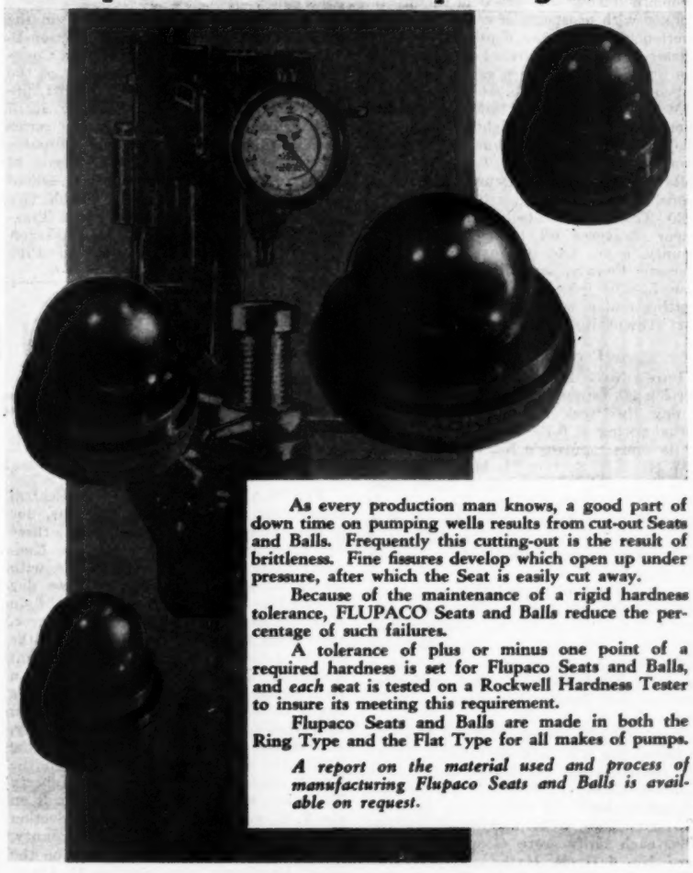
Write for the Ryerson Stock List.

JOSEPH T. RYERSON & SON INC.

Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Cleveland, Detroit, Buffalo, Boston, Philadelphia, Jersey City.

Offices at: Tulsa, Houston, Denver, Dallas, Kansas City, Minneapolis, San Francisco.

You expect maximum efficiency—
Why not be sure you get it?



As every production man knows, a good part of down time on pumping wells results from cut-out Seats and Balls. Frequently this cutting-out is the result of brittleness. Fine fissures develop which open up under pressure, after which the Seat is easily cut away.

Because of the maintenance of a rigid hardness tolerance, FLUPACO Seats and Balls reduce the percentage of such failures.

A tolerance of plus or minus one point of a required hardness is set for Flupaco Seats and Balls, and *each* seat is tested on a Rockwell Hardness Tester to insure its meeting this requirement.

Flupaco Seats and Balls are made in both the Ring Type and the Flat Type for all makes of pumps.

A report on the material used and process of manufacturing Flupaco Seats and Balls is available on request.

FLUID PACKED PUMP CO.

BOX 64 • LOS NIETOS, CALIFORNIA • U.S.A.

MID-CONTINENT AND TEXAS DISTRIBUTION

FLUID PACKED PUMP CO.—MID-CONTINENT

2 S. E. 29TH ST., OKLAHOMA CITY, OKLAHOMA

Gulf Coast Headquarters: 409 Velasco St., Houston, Texas

London Office: Coventry House, South Place, London E.C. 2, England

A MODERN PUMP FOR MODERN CONDITIONS

Protected by Patents No. 1545474, 1545475, 1549175, 1621046; others pending.

Michigan Potential Rated Five Times Allowable; Eight Wells Add 6,886 Bbls. During Week

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., July 9.—Eleven Michigan fields were credited with an aggregate daily potential of 180,436 bbls. or more than five times its Federal allowable of 33,200 bbls. a day as of July 1 in estimates of the Michigan producers proration committee last week. Daily potential of the Porter Pool, Midland County, alone was rated at 166,708 bbls. with eight new producers adding 6,886 bbls. a day. Daily runs were estimated at 24,406 bbls., or 15 per cent of the potential. In addition to the eight new wells in Porter Township averaging 860 bbls. a day each, Pure Oil Co. brought in a new 60-bbl. upper Traverse well in Home Township, Montcalm County, after it had been reported a dry hole to be carried down as a Dundee test.

A new 2,000,000-foot gasser was completed in the Michigan pay sands in Vernon Township, Isabella County, the best gas well in months. A second test was drilled into the Dundee oil sands in the Broomfield Township gas field in Isabella County with prospects of commercial production at the lower depth. Two other Michigan tests were drilled into the Dundee and Michigan series gas sands without success though not yet abandoned.

More than 20 other tests are nearing completion including eight Dundee oil projects in Porter Township, Midland County, six in Vernon Township, Isabella County, two in Denver Township, Isabella County, one gas test in Broomfield Township, Isabella County, three upper Traverse oil tests in Montcalm County, a gas test in Austin Township, Mecosta County, on which laying of a new 55-mile pipe line to Muskegon is waiting and a wildcat oil test in Fruitport Township, Muskegon County.

Porter Township

Pure's No. 3 Bond-Risley, SW NE NE Section 20, estimated good for 7,500 bbls. a day the week before, was given an actual rating of 6,720 bbls. at 3,420 feet, while same company's No. 3 F. E. Rosa, NW SE NW Section 21, largest completion last week, was rated at 3,336 bbls. a day at 3,434 feet. Carter Lease, Inc.'s No. 3 William Carter, NE SW SE Section 13, which made 500 bbls. during the first 12 hours, made 900 bbls. a day in the Dundee.

Next largest oil completion was Pure Oil Co.'s No. 3 Everett Kleinhans, NE SW NE Section 20-13n-1w, which flowed 203 bbls. in the first two hours and was estimated good for at least 2,000 bbls. a day at a total depth of 3,427 feet after topping the Dundee limestone at 3,377 feet.

Davis Oil Co. completed No. 7 Herman Neitzke, SE NW NW Section 21, at 3,432 feet for about 800 bbls. a day. Pure's No. 6 A. C. Wyant, SW SW SW Section 16, made about 500 bbls. a day from 3,432 feet. Two wells making about 100 bbls. each daily were George G. Hanners' No. 4 G. R. Hathaway, NW SW NE Section 17, and C. W. Teater's No. 5 J. M. Wale, SE NE NW Section 22. The former topped the Dundee at 3,380 feet and was completed at 3,422 feet while the latter reached the limestone at 3,355 feet and was bottomed at 3,410 feet.

Montcalm County

Attention was focused on developments in Montcalm County where wildcat drilling has been centered following the completion of two Christensen wells in Section 10-12n-6w, Home Township, with a potential of more than 1,000 bbls. each in the upper Traverse. After being considered dry in the Traverse, Pure's No. 1 H. J. Hansen, NE NE NW Section 10, Home Township, a west offset to the discovery wells of the Daily Crude Oil Co., began to produce at 3,096 feet, 17 feet below a show of gas and water at 3,079 feet leading to the previous report of a dry hole. Casing had been pulled and the hole reamed 17 feet downward when pay sands flowed 60 bbls. in the first 24 hours.

Operators are watching developments daily in three other Montcalm tests now nearing completion including the Roosevelt Oil Co.'s No. 1 Sherwin, SW SW Section 13, Rex Oil & Gas Co.'s No. 1 A. Johnson, NW NE NE Section 17, and the Daily Oil Co.'s No. 3 H. P. Christensen, SW SW SE Section 3, all in Home Township, and Daily Oil Co.'s No. 1 Blair, SW SE SE Section 11, Ferris Township, now drilling to the Dundee after failure in the upper Traverse. Other tests are drilling but are not yet deep enough to strike the upper Traverse for some time.

Taggart Brothers, Inc.'s No. 7 on the J. M. McKeough lease, C SW Section 2-14n-9w, Austin Township, Mecosta County, was drilling within a few feet of the anticipated Michigan gas level at 1,290-1,310 feet. It was drilling below 1,275 feet. Success in the Michigan gas series will be the signal to start the proposed 55-mile natural gas line to Muskegon at a cost of about $500,000, as was stated here last week by Chester N. Chubb, vice president of the American Light & Traction Co. and president of the Muskegon Gas Co. and American-Michigan Pipe Line Co., two affiliated local subsidiaries.

Vernon Township

Atha Oil Co.'s No. 1-B William Mahar, C SW SW Section 25-16n-4w, Vernon Township, Isabella County, had a gauged daily potential flow of 2,100,000 feet of gas daily from the Michigan gas sands at about 1,300 feet. Wittmer Co.'s No. 1 William J. Mahar, C SE Section 26, failed to strike gas in the Michigan series.

Six neared completion drilling at more than 3,000 feet on the way to the Dundee oil pay sands. They include: Templemayr & Tope's No. 1 Woods, SW SW SW Section 23-16n-4w, rigged up and ready to drill in; Mohawk Oil Development Co.'s No. 1 James Duncan, NE SW SW Section 9; Mammoth Petroleum Corp.'s No. 1 Julius and Carolina Schug, SE SE SW Section 22; Tri Oil Co.'s No. 1 I. C. Slentz, NE NE SE Section 22; Morris-Van Keuren Oil Syndicate's No. 2 Bowman, SE NE NW Section 27, and Columbia Oil & Gas Co.'s No. 1 J. E. Simpson, NE SE SE Section 16.

Two Denver Township, Isabella County wells, also are more than 3,000 feet deep and nearly completed. They are: Hirzel Leland Development Co.'s No. 1 Anton Wezensky, NW SW SE Section 30-15n-3w, and Strange and Fortney, or For-Munn Oil Co.'s No. 1 J. W. Campbell, NE NW NW Section 31.

McClanahan Oil Co.'s No. 1 John Hicks, SW NW SW Section 27, struck water in the Dundee indicating failure at this depth although drilling had not yet been permanently suspended. The Hicks is a diagonal offset to the company's No. 1 Demski which made commercial production several months ago starting development in this area.

Broomfield Township

Michigan Cities Natural Gas Co.'s No. 3 Bartlett-McClintic, C NW SE Section 3-14n-6w, had a good show of oil 2 feet in the Dundee when drilling operations were suspended for a test. Pure Oil Co. several months ago deepened from the Michigan sand level to the Dundee with a resulting 20-bbl. pumper. Results already are believed to indicate the presence of a commercial oil pool in the vicinity where most of the wells stopped at the shallower Michigan pay sands for gas.

George G. Hanners' No. 2 Keeler-Mitchell, C SE NW Section 9-14n-6w, also Broomfield Township, was reported nearing the gas sands. McClanahan Oil Co.'s No. 1 Converse, SE SE NW Section 28, Greendale Township, Midland County, was drilling at below 3,000 feet.

Western Michigan

Muskegon Oil Corp.'s No. 1 Mary Halter, SW SW SW Section 22-9n-16w, Fruitport Township, Muskegon County wildcat about 10 miles south of the original Muskegon Township Field, was drilling Saturday near the upper Traverse expected at about 1,650-1,700 feet.

H. C. Nelson of Muskegon is still completing his No. 1 Joseph and Anna Christman, W half E half SW Section 25-15n-17w, Hart Township, Oceana County, in which a good show of oil and 8 feet of pay sands were encountered during the previous week.

New Locations

Nine new permits were issued including four in Porter Township, Midland County, and five wildcats, one each in Madison Township, Lehawee County; Sherman Township, Isabella County; Evart Township, Osceola County; Morton Township, Mecosta County, and Home Township, Montcalm County.

The four new Porter locations include: Fred W. Turner and others' No. 2-B Eugene St. John, SW SE SW Section 21-13n-1w; McClanahan Oil Co.'s No. 4 Norman and Cecile Breu, SW SE NE Section 20, and Pure Oil Co.'s No. 6 Everett Kleinhans, SE NW NE Section 20, and same company's No. 3-A W. W. Hoyt, SE SE SE Section 17.

The five wildcat locations follow: P. D. Snavely, trustee's No. 1 Jesse L. Lindsay and wife, NE NW SW Section 6-7s-3e; Sherman Drilling Co.'s No. 1 George Carruthers, C SE SW Section 32-15n-6w; Sun Oil Co.'s No. 1 Clare Marble, SE SW Section 8-17n-8w, Evart Township, Osceola County; Colmur Oil & Gas Syndicate's No. 1 George R. Sapp, C NE SW Section 6-14n-8w, and Garfield Oil & Gas Co.'s No. 1 C. Wymer, NW NW SW Section 11-12n-6w, Home Township, Montcalm County. The last new permit was issued in place of the Garfield company's No. 1 Andrew J. Irwin, while Pure's new No. 3-A Hoyt permit replaces one previously issued for the No. 1 Silver.

George G. Hanners has erected a rig on the Waldo farm in Section 20, Watertown Township, Clinton County, 6 miles from Wacousta, near Grand Ledge, where he has recently completed leasing about 5,000 acres pooled by the farmers under a single agreement. He reports a wildcat near Grand Ledge had a showing of oil recently but has been shut down for several weeks without being completed.

Central Ohio Field Has 11 Completions; Ten Reported From Kentucky Fields

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, July 9.—The Central Ohio Field reported 11 completions, one a well with an initial of 45 bbls., three dry holes and eight gas wells. The Kentucky Field also had 11 completions, with an initial of 659 bbls. and but two dry holes. The old Lima Field brought in only one dry hole, and a small producer. Ohio Fuel Gas Co.'s No. 1-5,814 on the E. V. Jones farm, Section 8, Pleasant Township, Hardin County, was dry at a total depth of 1,331 feet. J. L. Barrett's No. 1 on the T. N. Einsel farm, Section 1, Hopewell Township, Seneca County, showed but 1 bbl. In Seneca County the Tiffin Oil & Gas Co. is drilling on the Frank Sherger farm, Section 32, Liberty Township, as is R. E. Green's No. 3 on the T. C. and B. G. Shaull farm, Section 30, same township. In Marion County, Claridon Oil & Gas Co. is drilling on the H. C. Barnhardt farm, Section 11, Claridon Township.

In Hardin County, Kenton Oil & Gas Co. is drilling on the John McMahan farm, Section 17, Pleasant Township, and in Marion Township, Cottonwood Oil Co. is drilling No. 2 on the C. L. and S. A. Sinift farm, Section 11.

Onsel Brothers abandoned Nos. 1 and 2 on the H. F. and E. A. Hilgeneck farm, Section 8, Woodville Township. In Allen County, H. F. Kelley and others are starting No. 1 on the F. B. Sellers farm, Section 30, Perry Township. Carey Oil Co. is drilling on the J. Dillinger farm, Section 11, Pleasants Township, Hancock County. In Van Wert County, Elmer Caudill is drilling on the Mary B. Sheets farm, Section 30, Jackson Township, same county.

CENTRAL OHIO

The Central Ohio Field has more development work than any other area of the Central West Field. In Ashland County, Lake Township, Robinson and others' No. 1 on the A. J. McClure farm, Section 10, Lake Township, is a gas well and No. 2 is drilling. No. 1 had a slight oil showing and may make a commercial producer. No. 2 is drilling on the same farm. In Hanover Township, Ohio Fuel Gas Co.'s No. 1-5,802 on the G. H. Fulmer farm, Section 12, is a gas well, and same company has a location for No. 1-5,839 on the John Mutchler farm, Section 3, same township. Same company is drilling No. 1-5,828 on the F. M. Morr farm, Section 7, Perry Township, has made a location for No. 1-5,830 on the D. Starcher farm, Section 32, same township, and is putting up the rig. Same company has a location on the A. and M. Shaffer farm, being No. 1-5,822, Section 12, Vermillion Township, and for No. 1-5,856 Charles H. Stanley farm, Section 18, Sullivan Township. Hulse & Kundtz have a rig for No. 1 on the Clarence Frankfelder farm, Section 16, Montgomery Township.

In Mohican Township, Ashland County, Kenova Oil & Gas Co. is drilling No.

(Continued on Next Page)

Central West Fields

(Continued from Preceding Page)

6 on the Mahlen Drusbell farm, Section 16. Meltzer and others are drilling No. 8 on the Clark Alber and others farm, Section 34, same township, and Moore and others have a rig for No. 8 on Lot 34 on the George W. Black farm.

In Lorain County, Ohio Fuel Gas Co.'s No. 1 J. C. Offenberg farm, Lot 50, Columbia Township, is a gas well. Same company is drilling No. 1-5,827 on the Helen S. Osborn farm, Lot 49, and has made a location for No. 1 A. S. Gibson farm, Lot 80, same township. In Carlisle Township, Wiser Oil Co.'s test on the Edward T. Squires farm, Lot 12, was a dry hole at 2,260 feet. McMillam and others are drilling No. 1 Merl Penfound farm, Section 9, same township. Ohio Fuel Gas Co. is drilling No. 1-5,843 J. T. Moon farm, Section 23, same township. In Grafton Township, Wittmer Oil & Gas oC. is drilling No. 1 on the Louis M. Mennell farm, Lot 78. Minor and others are shut down at 2,225 feet in No. 3 Mathias Myers farm, Section 32, Ridgeville Township, and McCarnless & Beal are shut down at 2,225 feet on the Columbus Mutual Life Insurance Co.'s farm, Lot 65, Eaton Township.

In Holmes County the Ohio Oil Co. is reported drilling at a depth of 3,260 feet on the Amos H. Graven farm, Section 7, Prairie Township. Ohio Fuel Gas Co. is starting No. 1-5,840 on the Walter C. Uhl farm, Section 11, Mechanic Township. Same company has a location for No. 1-5,844 on the Silas Pyers farm, Section 20, Monroe Township, and has locations for No. 1-5,855 on the Morgan A. Quick farm, Section 28, Washington Township, and for No. 1-5,848 on the Leo Hadenschild farm, Section 15, same township. Wittmer Oil & Gas Co. is drilling No. 2 on the Desboro Campbell farm, Section 8, Ripley Township.

Fairfield County

In Fairfield County City Natural Gas Works' No. 3 J. J. Shaw farm, Section 10, Pleasants Township, is a dry hole at a total depth of 2,245 feet.

In Knox County Upham Gas Co.'s test on the Cecil Strickler farm, Lot 14, Butler Township, is a gas well at a total depth of 3,146 feet. Riley and others are drilling No. 2 Joseph Breece farm, Lot 6, Pleasants Township. Pure Oil Co. is drilling below 2,000 feet on the B. R. Basine farm, Section 8, Union Township.

In Licking County, Whitehill Oil Co.'s No. 20 on the Alice Ashcraft farm, Section 29, Perry Township, produced an initial of 45 bbls. at a depth of 2,851 feet. Preston Oil Co. is drilling No. 2-1,551 Mauk farm, Section 16, same township, and Blue Rock Oil Co. has a rig for No. 3 on the Walter Hoyt farm, Section 17, same township. E. J. Edman is drilling No. 4 Thomas Smith farm, Section 1, Franklin Township. Armbruster & Strickler's No. 1 Paul Miller farm, Section 17, Mary Ann Township, is a gas well at 582 feet.

In Muskingum County, Brush Creek Township, Fritz Oil & Gas Co. is drilling No. 2 Orin Perdew farm, Section 4. Hopewell Gas & Fuel Co. is drilling on the Albert P. Dozer farm, Section 9, same township. Pure Oil Co. is drilling No. 1 Francis N. Norman farm, Section 22, same township. William Kline and others are driling on the Edward Doyle farm, in Clay Township. In Jackson Township, Pure Oil Co. made a location on the M. F. Acord farm, Section 17.

In Athens County, Ohio Fuel Gas Co.'s No. 1-5,815 on the Irene Douglass farm, in Lots 17-18, Lodi Township, is a gas well at 1,667 feet, and has a location on the Alden A. Buck farm, Lot 17, same township.

In Meigs County, Barton & Utsinger's test on the Elmer J. Searle farm, Section 8, Rutland Township, is a gas well at 775 feet. Joe Rubin and others are drilling on the Crosby J. Price farm, Section 4, same township. Joe Rubin and others are drilling on the Ray Proffitt farm, Section 25, Lebanon Township. In Columbia Township, Charles L. Bailey and others are drilling on the Charles L. Bobo farm, Section 12. In Rutland Township, Ohio Fuel Gas Co. is drilling on the C. E. Bryan farm, Section 9, and on the Pearly Ralph farm, Section 4, same township.

In Medina County, Preston Oil Co.'s No. 19-1,554 came in a dry hole at 503 feet, on the Harry M. Beach farm, in Lot 9, Chatham Township. Ohio Fuel Gas Co. is drilling No. 1-5,806 on the Edward C. Herr farm, Lot 8, same township. Ohio Fuel Gas Co. is drilling several wells in Medina County.

KENTUCKY

Ten completions were reported from the Kentucky fields. In Ohio County, Stewart and others' No. 2 G. W. Roberts farm, near Oak Station, produced an initial of 214 bbls. Snowden & McSweeney Co.'s test on the G. E. Fuqua farm, in the Roberts Pool, same county, produced 122 bbls. initial. Miles and others' No. 1 on the Bob Canary farm, 2 miles south of Fordsville, same county, produced 8 bbls. initial.

In Hancock County, Joseph B. Mayer's No. 2 J. W. Matthews farm, produced 40 bbls. initial. In Daviess County, Hupp & Duff's No. 1 E. L. Hinton farm, produced 20 bbls. initial.

In McLean County, Cameron & Thompson's No. 3 Will Ashton farm, produced 30 bbls. initial. W. W. Dameron's No. 12 L. E. Morris farm produced 80 bbls. initial and No. 13 same farm showed an initial of 140 bbls. Whitmer Oil & Gas Co. is drilling No. 2 George Bales farm, and Mike Callas and others are drilling No. 2 Edward Wells farm, same county. E. L. Newton is drilling No. 3 H. H. Northern farm, same county.

In the Hardcastle area in the Bowling Green Field, Clyde Wheeler's test on the Jim Bates farm, in Warren County, came in a dry hole at a total depth of 495 feet. In the Scottsville Field of Allen County, in the Mount Ariel area, Ben Ruble is drilling on the Charles Willoughby farm.

No completions were reported from Indiana and Illinois for the week.

Canadian Fields

(Continued from Page 69)

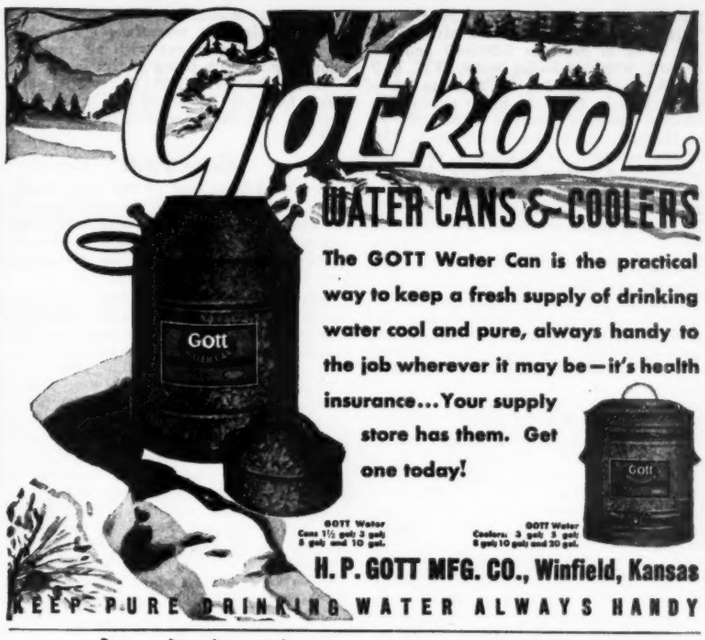
No. 6, LSD 12, Section 4-19-2w5, is drilling around 2,600 feet. Nolan-Hungerford Royalties' No. 1, LSD 5, Section 34-18-2w5, has secured heavy duty rotary outfit from Calmont Oils, Ltd., and is moving equipment to location. Completion of the test, which stands at 280 feet, will be in charge of Hilary Head.

Okalta Operations

Shareholders of Okalta Oils, Ltd., of Calgary have approved the sale to Royalite Oil Co. of the Okalta deep lime

LEGAL

Department of the Interior. Notice is hereby given that pursuant to the act of May 23, 1934 (Public No. 248), the lands comprising Fort Morgan Military Reservation, Baldwin County, Alabama, are offered for lease for exploitation of oil and gas and other minerals, to the qualified bidder of the highest amount offered per acre as a bonus for the privilege of leasing the land. The lease will be issued under the provisions of the act of February 25, 1920 (41 Stat. 437), as amended, and the regulations thereunder, for a term of twenty years with right of renewal, on condition that drilling be commenced within three months from date of lease, at a royalty on oil ranging from 12½ to 33⅓ per cent of the production, and a rental payable annually in advance of one dollar per acre. Such lease will contain a provision requiring compliance with the Code and all acts of Congress heretofore or hereafter enacted to regulate or control the petroleum industry. The area to be leased is approximately 493.9 acres, inclusive of the tract of about 25 acres quit-claimed to the State of Alabama, which tract will be included in the lease provided the State consents thereto prior to issuance of the lease. Only sealed bids received by the Secretary of the Interior not later than 10 o'clock a. m. July 24, 1934, will be considered, the outside envelope in which the bids are enclosed to be plainly marked "Bid on oil and gas lease, Fort Morgan Military Reservation." Each bid must be accompanied by certified check on a solvent bank or postal money order for one-fifth of the bonus bid, and the successful bidder must, when required to do so, furnish evidence of his qualifications to hold a lease under the act of February 25, 1920, pay the remainder of his bonus bid and the first annual rental. Bidders are warned against violation of section 59, U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combinations or intimidation of bidders. The right is reserved to reject any and all bids. (SGD.) HAROLD L. ICKES, Secretary of the Interior.


Gottkool
WATER CANS & COOLERS
The GOTT Water Can is the practical way to keep a fresh supply of drinking water cool and pure, always handy to the job wherever it may be—it's health insurance...Your supply store has them. Get one today!
Gott
GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
GOTT Water Coolers 3 gal; 3 gal; 5 gal; 10 gal; and 20 gal.
H. P. GOTT MFG. CO., Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

AXELSON

Pumps & Sucker Rods are Making Money for many users by reason of their Economical Operation

AXELSON MANUFACTURING CO.

P. O. Box 710, Vernon Station, Los Angeles

Tulsa 50 Church St., New York St. Louis

Mid-Continent and Eastern Distributor:
Frick-Reid Supply Corporation

Rocky Mountain Distributor:
Great Northern Tool & Supply Company

rights and producing wells in Central Turner Valley. The deal involves some 210 acres in Sections 1-20-3w5 and 36-19-3w5, with producing wells, Nos. 1, 2 and 3. Okalta retains the right to crude oil production from the upper sands. The Okalta company receives 12,800 shares of Royalite stock and $6,400 cash. The Okalta company is planning a cash distribution of $10 or more per share to preferred shareholders; and will drill a new deep lime test in LSD 14, Section 16-18-2w5, south of Highwood Royalties' No. 1 Oliver, in LSD 3, Section 21-18-2w5, at present the furthest south drilling test in the field.

Central Turner Valley

In the Central Turner Valley, New McDougall-Segur Oil Co.'s No. 7, Section 12-20-3w5, is drilling below 1,180 feet.

Tests in the Foothills

On the Pekisko Hills structure, south of Turner Valley, Pekisko Hills Co.'s No. 1, LSD 6, Section 6-17-2w5, is cementing casing in the lime at 1,160 feet. At 89 feet in the lime the gas flow increased to 2,000,000 feet a day, used as drilling fuel.

On the Hunter Valley structure west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, LSD 12, Section 13-31-10w5, is carrying casing in the Blairmore below 2,830 feet. It recently got a pocket of noninflammable gas with an unusual odor. Samples are being analyzed.

In the Oil City Field, Waterton Lakes Park, Oil City Royalties' No. 1 Patrick, Section 30-1-30w4, is drilling below 1,590 feet.

Border Fields

In the Alberta end of the Red Coulee Field, Vanalta's No. 6, has been located in LSD 3, Section 4-1-16w4, offsetting the company's earlier producers. This is the first test to drill in the Canadian end for a considerable time.

South of Lethbridge, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is taking a small production from the top of the Madison lime at 3,930 feet.

Hudson Bay Junction

In northern Saskatchewan, Trail Blazer Oil & Gas Co.'s No. 1, SW Section 32-44-3w2, is about 270 feet at the bottom of the Dakota formation. Defective casing and a broken shoe have been pulled, and the drillers are trying to land 12-inch pipe to shut off water from the top of the Dakota. Petroleum Engineering Co. is moving a Petrolia rig to drill on the north end of the structure about three-quarters of a mile east of Hudson Bay Junction. Senator Oil & Gas Co. of Ottawa is putting down this test which will be drilled through the Ordovician formation.

Dirt Hills Test

In southern Saskatchewan, contract for completion of Pine River Petroleums' No. 1, LSD 8, Section 23-12-24w2, on the Dirt Hills structure, has been let to the S.W.S. (Sugars, Wilson & Stevens) Drilling Co. of Edmonton, which is moving equipment to location. It has been shut down since last fall at 2,938 feet. Dr. J. O. G. Sanderson, petroleum engineer, of Calgary, will supervise operations for Highwood-Sarcee Oils, Ltd.

Lloydminster Drilling

In the Lloydminster gas field, West Central Saskatchewan, Lloydminster Gas Co.'s No. 1, LSD 6, Section 11-50-28w3, is officially reported completed at 1,974 feet. Gas flow measured 16,750,000 feet in 24 hours, with 565 pounds rock pressure. This is the first large gasser completed in Saskatchewan. Some 16 miles south and 9 miles east, Altoba Oil & Gas Co.'s No. 1, is drilling. Midway between the two, Northwestern Utilities' No. 1, S. Township 48-26w3, is spudding.

Other Saskatchewan Tests

In the older portion of Saskatchewan, Blackfoot Oil & Gas Co.'s No. 1, SE Section 31-11-21w3, is drilling with standard tools around 1,000 feet. Petroleum Engineering Co. is digging cellar for a test with standard tools in SW Section 14-11-21w2, 4 miles east of Blackfoot's No. 1.

A shallow test for gas is being drilled by a local syndicate near Riverhurst. In the Simpson area, in eastern Saskatchewan, Simpson Oil Co. is reported drilling some structure tests.

Ontario Drilling

In the D'Clute Field, Kent County, Ontario, Union Gas Co.'s No. 23 D'Clute, Lot 141, Talbot Road, Raleigh Township, is drilling below 1,400 feet. Gas in the top pay is estimated at 350,000 to 400,000 feet a day.

In the Tilbury Field, Ralph Dawson's No. 5, Lot 4, Concession 13, Raleigh Township, is finishing in the Tilbury sand around 1,400 feet with a gas flow estimated at 35,000 feet a day.

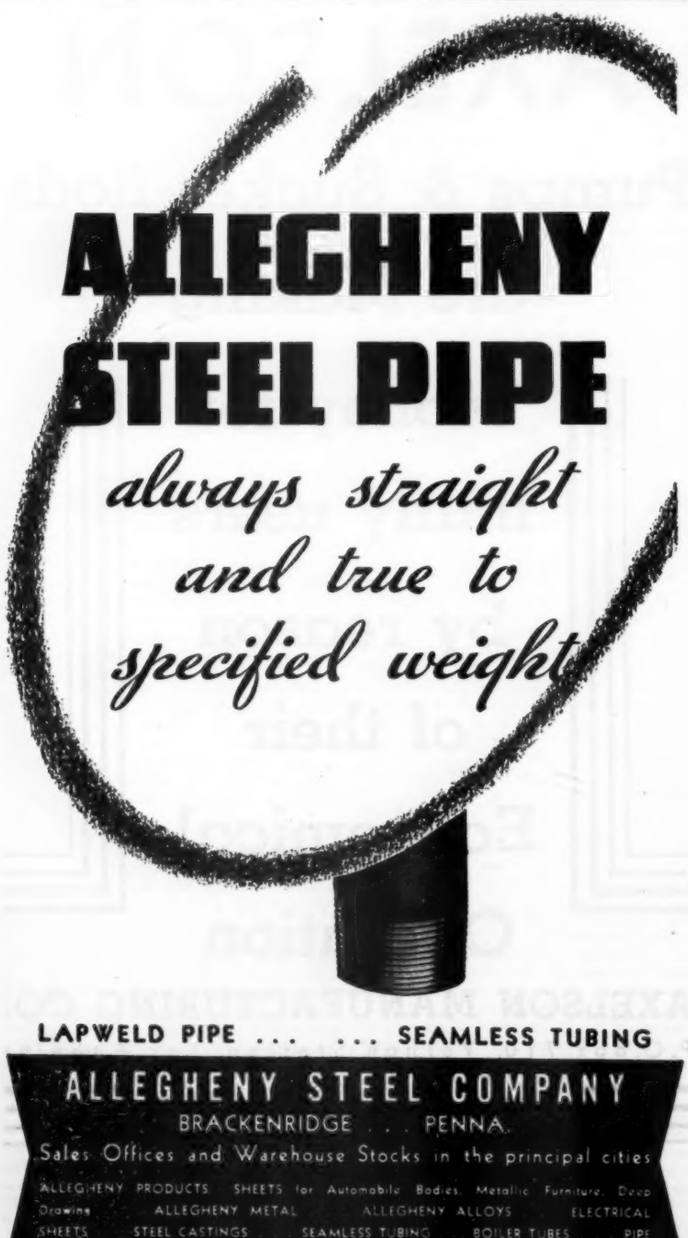
In the Dawn Field, Lambton County, Union Gas Co.'s No. 3 got the Trenton limestone at 2,928 feet and is drilling around 3,000 feet. West of the field, Union's No. 75, Alex Pettit farm, Lot 27, Concession 13, Sombra Township, is drilling below 2,000 feet. The test failed to get the gas show which, according to an old tradition, was met in the adjacent Bradshaw well at around 1,500 feet.

Leo Wilson Syndicate's No. 1 deep test, Lot 7, Concession 3, Sarnia Township, near Bunyan, is drilling around 2,900 feet, apparently in the Trenton limestone.

In Euphemia Township, Lambton County, Laddwill Oil Co.'s No. 1 is at 510 feet and waiting for casing.

In Norfolk County, Prairie Oil & Gas Co.'s No. 4, Mrs. E. Stillwell farm, near Eden, is drilling below 520 feet. Prairie's No. 5, Charles Coyle farm, 800 feet southwest of No. 3 producer, is drilling at 146 feet.

In Dover Township, Kent County, F. H. Stover & Son of Chatham are locating a test about 2,000 feet east of Prairie Oil & Gas Co.'s No. 2 which is standing unfinished. The Stover test will be drilled into the Trenton limestone.


ALLEGHENY
STEEL PIPE
always straight
and true to
specified weight
LAPWELD PIPE ... ... SEAMLESS TUBING
ALLEGHENY STEEL COMPANY
BRACKENRIDGE . . . PENNA.
Sales Offices and Warehouse Stocks in the principal cities
ALLEGHENY PRODUCTS SHEETS for Automobile Bodies, Metallic Furniture, Deep Drawing ALLEGHENY METAL ALLEGHENY ALLOYS ELECTRICAL SHEETS STEEL CASTINGS SEAMLESS TUBING BOILER TUBES PIPE

Kansas Wildcats

(Continued from Page 57)

LYONS COUNTY

Arkman & Baker's No. 1-A Hind, NE NW Sec. 30-21-12.
T.D. 2,015 ft.; dry and abd.

McPHERSON COUNTY

Marileen Oil and Goering Bros.' No. 1 Decker, NW cor. SE Sec. 20-18-1w.
T.D. 1,995 ft.; fishing.

Tom Palmer and Phillips Pet. Co.'s No. 1 Moddelmog, NE NE NW Sec. 8-21-1w.
Location.

NEMAHA COUNTY

Portland & McKenna's No. 1 Sudbeck, SW NW NW Sec. 20-1-12.
Top granite wash 490 ft.; S.D.

OSAGE COUNTY

Jim Edwards' No. 1 Detrich, C NW SE Sec. 21-14-15.
Machine.

OSBORNE COUNTY

Carmen & Hershey's No. 1 Fritz, C NE NE Sec. 9-10-14w.
S.D. 700 ft.

RENO COUNTY

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w.
Ponds and cellar.

L. H. Wentz' No. 1 Metcalf, SE NE SW Sec. 3-24-7w.
Set 8-in. 2,918 ft.; drlg. 3,092 ft.

Sinclair Prairie Oil Co.'s No. 1 Shepard, SE cor. NW Sec. 22-26-9w.
T.D. 4,173 ft. in Viola; small show oil; standardizing.

RICE COUNTY

Aylward & Trees' No. 1 Belder, SW SE NE Sec. 27-20-7w.
Drlg. 3,500 ft.

Continental, Empire and Shell's No. 1 Bennett, NW SE Sec. 25-18-8w.
Siliceous lime 3,132-72 f.; T.D.; 1,193 bbls.; may acidize.

Deitrick et al's No. 1 Fitzpatrick, C NE NE Sec. 30-21-8w.
U.R. 10-in. csg. 1,975 ft.; and S.D.

Elwell et al's No. 1 Porter, NE NW Sec. 5-18-7w.
Location.

Elwell et al's No. 1 Springer, NE NW Sec. 35-18-10w.
T.D.3,301 ft.; dry and abd.

Gypsy Oil Co.'s No. 1 Malone, SE NE NE Sec. 30-20-9w.
Coring 3,280 ft.

Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w.
T.D. 2,425 ft.; S.D.

Reserve Dev. Co.'s No. 1 Heinz, NE SW SE Sec. 8-18-10w.
Siliceous lime 3,256-69 ft.; T.D.; acidized; pump 20 bbls. daily.

Robertson et al's No. 1 Johnson, NW cor. SW Sec. 22-19-8w.
T.D. 1,335 ft.; fishing.

ROOKS COUNTY

Ashby et al's No. 1 Doughty, C SW SW Sec. 15-8-19w.
Set 8-in. 2,026 ft.; drlg. 2,028 ft.

Phillips Pet. Co.'s No. 1 Dopita, C SW SW Sec. 31-8-17w.
Acidized 3,312-17 ft.; pumped 103 bbls. oil, 11 bbls. wtr. in 14 hrs.; S.D.

RUSH COUNTY

Central States L. & P. Co.'s No. 1 Basgall, SE cor. Sec. 10-17-16w.
Location.

RUSSELL COUNTY

Blair et al's No. 1 Funk, SW NW SE Sec. 16-14-14w.
Location.

Blair et al's No. 1 Hill, SW NE Sec. 14-13-14w.
S.O. 2,760-65 ft.; S.D. 2,782 ft.

Lario et al's No. 1 Nudenthal, NE NE Sec. 23-14-15w.
Material in.

J. H. Liggett's No. 1 Chrisler, C SW SW Sec. 9-11-15w.
H.F.W. 3,260 ft.; T.D. 3,263 ft.; fishing.

C. L. Price et al's No. 1 Bender-B, NW SE Sec. 10-16-13w.
Location abd.

SEDGWICK COUNTY

Bar Key Pet. Co.'s No. 1 Swenson, C NE Sec. 6-26-2.
S.O. 2,978 ft.; T.D.; S.D.

Corn & Aylward's No. 1 Heck, NW SW Sec. 2-27-1w.
T.D. 2,771 ft.; U.R. 8-in. csg.

Cromwell & Lewis' No. 1 Hammond, SW NW Sec. 23-27-2w (O.W.D.D.).
Rigging up.

D. Lauck's No. 1 Gillespie, NE SE SW Sec. 6-28-1w.
Chat 3,333 ft.; 3,344 ft., est. 2,000,000 ft. gas; 3,358-75 ft. small S.O.; 3,390-3,400 ft. S.O. and wtr.; T.D. 3,691 ft. in Viola; P.B. to shoot chat.

Shawver et al's No. 1 Schulte, NE NE Sec. 13-28-2w.
Running 8-in. 2,842 ft.

Sovereign Oil Co.'s No. 1 Nichols, C NW SE Sec. 20-25-1w.
T.D. 2,203 ft.; S.D.

Trees Oil, Derby Oil et al's No. 1 McMinn, NW SW NE Sec. 36-26-1e.
Drlg. 1,980 ft.

STAFFORD COUNTY

Stanolind O. & G. Co.'s No. 1 Denker, CNL SW NW SW Sec. 10-22-12w.
Coring 3,883 ft.

Vickers and Phillips' No. 1 Cravens, SW NE Sec. 15-25-11w (O.W.D.D.).
Base Viola 4,025 ft.; S.D. 4,085 ft.

SUMNER COUNTY

Morgan & Flynn's No. 1 Mercer, NW NE NW Sec. 36-32-1w.
Drlg. 3,140 ft.

Wentz and Continental's No. 1 Small, NW SW Sec. 5-33-4w.
Rigging up rotary.

TREGO COUNTY

Alma Pet. Co. et al's No. 1 Rhodes estate, SW SW Sec. 14-11-23w.
T.D. 3,910-15 ft.; small S.O.; U.R. 6-in. csg.

Central Commercial's No. 2 King, C SE SW NE Sec. 20-13-21w.
T.D. 4,453 ft.; dry and abd.

Mid-Kansas O. & G. Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
Drlg. 560 ft.

WOODSON COUNTY

Sheedy et al's No. 1 Hassenpflug, NW cor. NE Sec. 34-25-14.
T.D. 1,604 ft.; S.D.

Schwartz et al's No. 1 Collins, SW NW NE Sec. 30-23-14.
S.D. 200 ft.

NEW PERSIAN COMPANY

Kermanshah Petroleum Co., Ltd., has been registered in England with a capital of £750,000 to produce and refine oil in Kermanshah, Persia. John Clark, secretary of the Anglo-Persian Oil Co., and J. W. Reoch, secretary to the D'Arcy Exploration Co., will appoint the first directors.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

Chemicals Used in Petroleum Refining—Sodium Sulphide

This discussion of sodium sulphide is one of a series of short articles about chemicals used in the refining of petroleum. The first was published in the issue of March 15, 1934. —Editor.

Sodium sulphide is not well known as a refining chemical, but is produced in many plants as a product of the gas-recovery plant, where gasoline is extracted from the refinery gases and vapors. However, this substance has a value as a purifying agent.

When sodium unites with sulphur two compounds are possible; sodium hydrogen sulphide, NaHS, also called acid sulphide, and the fully converted compound sodium sulphide, Na_2S. It is the compound last mentioned that will be especially considered here.

When sodium sulphate is heated with carbon the sulphate is reduced to the sulphide. Another method of preparation is the reaction of calcium sulphide and sodium carbonate, the resulting compounds being calcium carbonate and sodium sulphide. The reaction already mentioned, that is sodium hydroxide or the hydrogen sulphide of refinery gas, may result in the formation of different sulphides according to the proportions of hydrogen sulphide gas passing through the caustic solution. When the gas is in excess the NaHS is formed, but if enough NaOH is present Na_2S is produced. The reactions are expressed by

$$H_2S + NaOH = H_2O + NaHS$$

$$NaHS + NaOH = Na_2S + H_2O$$

Sodium sulphide is easily soluble in water and the sulphur readily unites with metals and hydrocarbon radicals.

Sodium sulphide may be used to advantage in the sweetening operation as a source of sulphur to complete the doctor reaction The sodium plumbite acts on the mercaptans, R SH, to produce lead mercaptides, such as $(RS)_2Pb$, and then upon the addition of free sulphur these are converted to the disulphides, RS-SR, which do not react with the doctor solution and are noncorrosive. However, there is always danger of over sulphurizing when adding sulphur because any excess goes into solution in the oil. This does not take place when sodium sulphide is used because the excess simply remains in solution in the reagent. The manufacturers of natural gasoline find that sodium sulphide is more desirable than sulphur for the additional reason that it will remove the small quantities of hydrogen sulphide so frequently present in natural gas.

It will also combine with free sulphur to form the polysulphide Na_2S_x, so may act to remove free sulphur from a petroleum oil.

Properties. Formula Na_2S; molecular weight 78.06; specific gravity 1.856; solubility in water, 15.4 per cent in cold water and 59 per cent in hot water (about 194° F.). These properties are those of the pure crystalline form. The commercial grades may be fused and broken lumps containing 60 per cent or the 30 per cent product.

Price. The concentrated form is shipped in drums which may vary from 280 to 700 pounds. The product is sold at shipping points from 4 to 6 cents a pound.

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Dew Point Defined and Relation to Engine Performance

I am uncertain as to what is meant by the dew point of gasoline and if you will give me a definition and explain just what it has to do with the use of gasoline I shall be much obliged.—E. S. R.

The vapors of gasoline are blended with air before being admitted to the cylinders of a gasoline engine. If the maximum efficiency is to be attained from such mixtures it is essential that all of the gasoline remain in the vapor form. Since gasoline is not composed of one hydrocarbon, but several, it is easy to understand that a separation of the hydrocarbons, present in a blend of gasoline vapor and air, will take place when the temperature of the vapor is lowered. When the temperature of a dry mixture of gasoline vapors and air is reduced to a point where condensation begins to take place, the temperature is called the dew point. If this point is higher than the temperature of the cylinder walls drops will form on the cylinder walls and the oil will become diluted. This initial condensation, or dew point, has a bearing on the volatility of the gasoline, as first explained by Wilson and Barnard. Brown states: "The lowest temperature at which all of the fuel is vaporized when mixed with specific amounts of air is called the dew point. If the dew point is much below the temperature of the intake manifold, the mixture becomes not only dry but superheated with resulting loss in power and performance." Wilson and Barnard found that the dew point of a 12 to 1 air-fuel mixture could be estimated by subtracting 243° F. from the 85 per cent point of the A.S.T.M. distillation curve. Gruse suggested a test method in which an air-gasoline mixture was directed against a mirror under varying temperature conditions, and the temperature noted when the dew formed. Brown presents data showing that the 90 per cent point gives better results especially for low endpoint fuels, than the 85 per cent point and proposes an equation for estimating the dew point from the 90 per cent point, with an accuracy of plus or minus 6° F.

$$\text{Dew point °F.} = \frac{5}{7}\ (\text{A.S.T.M. 90\% in (12 : 1 ratio)}\ °\text{F.}$$

The distillation should be corrected for loss and residue. The equation will not apply in extreme cases, such as high percentage, 35 per cent or more, benzol blends. The gasoline in a 12 to 1 mixture should all be vaporized at a temperature not exceeding 160° F. and 60 per cent at about 90° F., or about 50° F. below the actual temperature in the manifold.

References: Wilson and Barnard, Ind. Eng. Chem. 13,906, 1921; Gruse, Petroleum and Its Products, page 215; Brown, Univ. Mich. Engineering Research Bulletin No. 7, May, 1927, pages 55-57.

Grading of Lubricating Oils as Pale, Neutral or Viscous

What is the meaning of the terms pale, neutral and viscous as applied to lubricating oils?—B. C. V.

Pale oils are those of light color, used for lubricating high speed machinery, such as is used in the textile industry and electric motors. They are used for blending and for making the light colored greases. The viscosities range from about 60 to 350 Saybolt at 100° F.

The neutral oils, are so named because they were originally made without acid treating. The process being to produce the desired distillate by fire and steam, then after sun bleaching, the oil was filtered to a suitable color with fuller's earth. They are used for lubricating the same class of machinery as the pale oils. The viscosities also cover the same range.

The neutral oils are usually described as either nonviscous or viscous. The nonviscous oils are of low Saybolt viscosity, 125 seconds and under, at 100° F. They are usually of light color, most of them being of very light color, 2½ and better, and flash points between 300° and 350° F.

The viscous neutrals may range from a very light color to the 350 viscosity red oils.

It is true that the term pale oil may cover all neutrals that have been refined to light color; and in fact color is the main distinguishing property. The pale oils are of low carbon residue and usually of low pourpoint. The higher viscosity oils of this type are extensively used either direct or blended with heavier stocks, such as bright stock, for making motor oils. They are also used for lubricating steam turbines.

The special meaning of the two terms, viscous and nonviscous, seems to have had its origin very early in the industry from the method of manufacture. The lubricating fraction from the crude oil is reduced in the still until the viscosity of the residue is increased to the desired point. During this heating the distillate is obtained, and in order to distinguish between the overhead (or distillate), and the residue (or bottoms), the term nonviscous was applied to the distillate and viscous to the residue.

Smoke Point of Kerosene by the I.P.T. Serial Designation K-36

Would appreciate any information you might be able to furnish in reference to the test designated as the "K-36 Smoke Point Test for Kerosene."—W. B.

K-36 smoke point test of kerosene is a method developed by the subcommittee of the standardization committee of the Institution of Petroleum Technologists, London, for evaluating kerosene in respect of its ability to burn without producing smoke. The smoke point is the maximum flame height obtained without smoking.

The test is made in a special lamp, I.P.T. smoke point lamp, provided with a scale for measuring the height of the flame in mm. The details of the lamp are shown with the description of the procedure for making the test, in the Journal of Institution of Petroleum Technologists, Vol. 19, 812, 1933. The method following is quoted from this reference:

"The lamp shall be placed in a vertical position and completely protected from draughts.

"Ten milliliters of the sample to be tested shall be filtered through filter paper and introduced into the clean, dry, oil holder.

"A piece of wick, not less than 5 inches in length, which may either be new or from a previous determination, shall be extracted with a suitable volatile solvent and dried for half an hour at 100 to 105° C. The wick shall then be soaked in the sample under test and placed in the wick holder, any twists arising from this operation being carefully eased out. It is advisable to re-soak the burning end of the wick in the sample. (In cases of dispute, or for referee tests, a new wick, extracted as described above, should be used.)

"The wick holder is then placed in the oil holder and screwed home. Care should be taken that the air inlet is free from oil.

"The wick shall be cut horizontally and trimmed free of frayed ends so that one-eighth inch projects from the end of the holder.

"The oil holder shall be maintained at a temperature of 20 to 25° C. for 10 minutes, and then inserted into the lamp and the wick lit.

"The wick is adjusted so that the flame is about 1 cm. in height, and the lamp left to burn for five minutes. Five or six determinations are then made by raising the wick until a smoky flame is produced and then lowering it until the smoky tail just disappears. (Raising the flame until this point is reached is not satisfactory.) The height of the flame at this point is carefully read in millimeters from the scale, the eye of the observer being about 9 inches from the front of the instrument, and the mean of the determinations recorded as the smoke point.

"The oil holder is removed from the lamp, cleaned out with the solvent, dried for half an hour at 100 to 105° C., and blown out with air ready for re-use.

"With proper care and attention to details, duplicate results should agree with 1 millimeter."

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Drilling Through Salt Overhangs Presents Peculiar Problems

I have read that operators are finding oil now below the "overhang" of salt domes in the Gulf Coast country. I have some knowledge of drilling operations, and it would seem to me that serious problems would be confronted in getting through this salt overhang and perhaps the cap rock too. Is not this the case? I would be glad to have such information as you can give me.—E. S. T.

It is true that peculiar drilling problems are encountered in drilling through the salt overhangs. These were discussed in a paper presented before the American Association of Petroleum Geologists by Sidney A. Judson and R. A. Stamey, of Houston, Tex., both familiar with the subject. They said in their paper:

"The rotary drilling methods usually employed in unconsolidated formations are modified in practice to meet the special conditions presented by the overhang. The principal problem in the cap rock occurs when drilling fluid is lost in its porous zones. Due to the low hydrostatic head existing in these cavities the drilling fluid flows into the cavernous portions of the cap rock and no longer returns to the surface. In the language of the driller a 'lose out' occurs.

"These cavernous zones are so extensive that several million barrels of drilling fluid and water have been pumped into the cap rock of a single dome without greatly increasing the hydrostatic head in the cavernous zone. When returns are lost there is much danger of the drill pipe sticking due to the unconsolidated formations above the cap rock falling into the hole as the fluid level quickly lowers.

"Such fishing jobs can usually be avoided by a close examination by a geologist of the cuttings from the well every few feet just above the expected position of the top of the calcite zone of the cap rock so that casing can then be set at nearly the exact top of the cap rock. This practice permits drilling to proceed through the cap rock even though the drilling fluid escapes into the cavities since the casing cuts off the unconsolidated formations that tend most readily to cave into the hole.

"The usual practice upon encountering the cavernous zone in the cap rock is to fill the cavities or loose sands with cement. This process is repeated as needed. Another method used is to set and cement a short liner through the cavernous zone.

"Upon reaching the salt extremely large solution caverns may be dissolved out in the salt if fresh water drilling fluid is continued in use. These caverns tend to produce crooked holes and sometimes cause extremely difficult fishing jobs. This condition is avoided by using a supersaturated salt solution in place of the fresh water drilling fluid. As drilling is continued through the salt, in order to prevent an accumulation of salt cuttings in the bottom of the hole which would interfere with further drilling, it is customary to add continuously small amounts of fresh water to the drilling fluid to dissolve these cuttings. In any event an attempt is made to keep the drilling fluid of such a composition that an excessive amount of salt cuttings will not remain in the bottom of the hole but will be dissolved without enlarging the hole above to an excessive size.

"Frequent well surveys are necessary to detect an excessively crooked hole, which often occurs while drilling in salt. These crooks are usually corrected by cementing back to where the crook starts and then redrilling the hole cautiously. When this method fails the hole is sometimes enlarged by drilling with fresh water while reaming to form a cavern in which the bit will swing into a vertical position because of gravity. The hole is then drilled ahead with but little weight on the bit.

"In general the difficult drilling conditions occurring in the cap rock and salt are so varied as to require the greatest resourcefulness and ingenuity on the part of the operator. However, improvement of drilling methods through cap rock and salt has been given much attention in the last two or three years by chemical and petroleum engineers and by field organizations with the result that these operations are being rapidly improved."

Deposits of Either Petroleum or Gas May Be Found in Syncline

With reference to a syncline in an oil and gas field, is it true that a syncline is never productive of oil or gas, or is there sometimes a local high in a syncline? If you have any reading matter on this subject I should be glad to have it.—N. A. D.

You really answered your own question by implication, for if a syncline is in an oil and gas field. obviously it will produce oil and gas

A syncline may contain oil or gas or both. It is a structure the reverse of an anticline and receives its name because its beds incline toward a common center line.

When basins are filled with water, oil may be found on the flanks of synclines. When little or no water occurs in the basin oil may be found close to the bottom of the depression.

Any good work on geology will give you the general information you desire. Dorsey Hager's "Practical Oil Geology" tells the details about the accumulation of hydrocarbons in all types of structures. Oil, like gold, is where you find it and commercial pools have been opened in igneous rocks.

Perplexed in Task of Translating Oil Field Terms Into French

My people have asked me to translate an A.P.I. booklet, "Precautions in Pulling Oil Wells," into French and I am having trouble hitting upon the French equivalent of this title. From Hollis Porter's useful "Petroleum Dictionary" I find that "pulling the wells" means recovering the casing and equipment from a well which it has been found necessary to abandon. This would be fairly easy to translate into what we call "detubage," but I find that the A.P.I. booklet refers to other operations than removing rods, casing, etc., and seems to refer also to running in casing. Would you be kind enough to give me a hand by explaining the correct meaning of "pulling the wells"?—F. H. A.

It seems probable that your perplexity results from confusing the ordinary pulling job, which can be done over and over again in the same well, with the complete and final operation of pulling the well for abandonment. "Pulling the well," as Mr. Porter says, means removing the casing and equipment and leaving the wall of the hole without support. The rods and tubing may be pulled, however, without abandoning the well. In fact, this is one of the routine operations of the oil field, since it is done as a preliminary to cleaning out the well. "Running in" is the reverse of "pulling," for it designates the process of lowering tubing, casing or rods into their place in the hole. When the expression "pulling job" is used it refers usually to the work of drawing out the tubing and rods (but not the casing) for a cleanout job.

Acid Treatment of Wells Should Be Under Expert Supervision

Tell me, please, how a well is treated with acid to increase its oil production. What is the acid used? How much of it is needed for the treatment? Just how is it placed in the well? I would like to have any information along this line.—L. A. W.

It should be made clear at the outset that the use of acid to increase the production of oil wells is something that calls for expert supervision. If undertaken without such supervision it is likely to result in costly damage. The following answer to your questions, obtained from M. E. Chapman, production engineer of the Gypsy Oil Co., is given subject to that warning:

"The concentration and amount of hydrochloric acid used varies with different wells. In Kansas and Oklahoma it is common practice to use 1,000-gallon charges, consisting of 500 gallons of 18° Be. acid (approximately 28 per cent HCl) and 500 gallons of water. One of these 1,000-gallon charges will dissolve approximately 10 cubic feet of calcium carbonate.

"Acidizing methods vary in different areas. The usual practice in Oklahoma and Kansas is first to pump oil down the tubing until the casing is filled. Acid is then introduced into the well through the tubing and oil is bled, if necessary, from the casing until the acid reaches the bottom of the hole. The casinghead then is shut in. Ordinarily a vacuum is created in the tubing when the acid begins rapidly to enter the formation. Consequently the remaining acid is quickly siphoned into the tubing. After all the acid has been introduced into the well, an oil load of sufficient size is pumped into the tubing in order to force all acid out of the tubing.

"The procedure outlined above cannot be followed in all wells. If oil enters the formation readily, the casing cannot always be filled with oil, in which case usually 100 or 125 bbls. of oil is introduced into the well. With the exception of bleeding off oil from the casing, the operation is then the same as that described for wells which can be filled with oil.

"During the operation the tubing and casing pressures at the well head are usually different, particularly at the time the acid encounters the limestone. Observed casing pressures have been 350 pounds or higher, while vacuum is registered on the tubing. This variance of observed pressures is due to differences in specific gravities of fluids in casing and tubing.

"The specific gravity of the acid solution is approximately 1.08 while that of 45 degree oil is 0.8. A 3,000-foot column of oil would create a pressure of about 1,040 pounds per square inch, and a 3,000-foot column of acid would create 1,400 pounds per square inch pressure, a difference of 360 pounds. In addition there would probably be an increase of pressure at the casinghead because of the production of CO_2 resulting from action of the acid on limestone."

Why Was It Called That?

BLANKET LEASE

A blanket lease refers in the oil business to a lease covering a certain area in its entirety instead of specified sections of it. A well-known instance is that in which the tribal council of the Osage Nation in Oklahoma gave a blanket oil and gas lease on its whole reservation of 1,500,000 acres. (Incidentally, the Federal Government withheld approval of the lease.) The word "blanket," as it is commonly used in the American home, is traced to Thomas Blanket, a weaver of Bristol, England, credited with introducing the now familiar and all-inclusive bed covering.

NATURAL GAS DEVELOPMENTS

Missouri Commission to Begin Gas Inventory

JEFFERSON CITY, Mo., July 9.—The Missouri Public Service Commission has started proceedings for an inventory and appraisal of the Kansas City Gas Co. property, upon which it will determine the fairness of the rates charged for domestic gas. At a conference with Ben C. Adams, vice president and general manager of the Gas Service Co., and Charles H. Mayer of St. Joseph, general counsel for the company, arrangements were started for the inventory.

The plan proposed to the gas company officials provides that the inventory be made by employes of the company, supervised by Public Service Commission engineers. Messrs. Adams and Mayer agreed tentatively to the proposal pending consultation with other officials of the Henry L. Doherty companies.

Such an inventory now is being made by the Kansas City Power & Light Co., and the appraisal of the gas company will be conducted along those lines. By making the inventory through gas company employes it will be possible to start this year rather than await additional appropriations by the 1935 legislature.

J. C. Collett, chairman of the Public Service Commission, said it also was the purpose of the commission to inquire into the fairness of the price paid by the Kansas City Gas Co. for natural gas from the Cities Service Gas Co., the pipe line unit. The gate rate paid by the gas company is 40 cents per 1,000 feet.

Chairman Collett said that after the inventory and appraisal had been completed, the commission probably would obtain the inventory for the Cities Service Pipe Line made by the Kansas commission in its investigation of rates and would use the Kansas valuation figures in determining the fairness of the gas rates.

It was pointed out at the conference that no valuation had been made of the company properties since 1924. The valuation at that time was not made by engineers for the commission, but was arrived at by computation of investment costs coupled with information furnished by the gas company.

In 1924 the estimated value was fixed at $9,800,000, upon which the rates for domestic gas were based.

The last annual report of the Kansas City Gas Co., which commission accountants have been studying along with the annual reports filed by other utilities, showed that the company earned a return of about 6 per cent on an estimated valuation of $10,000,000, according to the accountants

Commission engineers estimated it would take several months to complete the inventory If started within the next month or two, it would be possible to finish by the first of the year, after which the commission then could determine the fairness of the rates. It was asked for under the general statute which gives the commission authority to require utilities to furnish information necessary on the rates.

CANADIAN GAS PRODUCTION

OTTAWA, Canada, July 7.—Official figures of the Dominion Bureau of Statistics show that natural gas production from all Canadian fields in April totaled 2,177,805,000 feet as compared with 2,598,738,000 feet in March and 2,222,556,000 feet in April, 1933. During the four months of 1934 the production totaled 10,435,419,000 feet against 10,492,765,000 feet in the same months last year.

Leak Detection in Low Pressure System; Odorization Process Gaining in Use

By ROY PARKER
Oklahoma Natural Gas Co.*

The most recent method of leak detection to be used is the introduction of a warning agent into the odorless natural gas. The general opinion is that this method is rapidly gaining favor with the natural gas industry, not only in cast-iron converted plants but in steel main systems. It is with this phase of the leakage problem that I base this discussion.

In the past year or two several gas companies have used this means of improving their service and eliminating much wastage of gas. Many of the larger cities have been served odorized gas for several years but only recently many of the small plants have been subjected to a quick inspection survey using a stench. Elaborate automatically controlled installations are necessary for handling large and varying volumes of gas going into a large city; but for small and constant loads, small, portable, manually operated units are quite suitable.

The portable unit consists of a pressure tank of 10 to 50 gallons capacity on which is welded collars for the several connection points, a sight feed, liquid level gauge valves and glass and the necessary pipe fittings to install it. Pipe saddles with 2-inch upright standards and flat rocker bars will support the tank. An equalizing line running to the top of the tank will allow the liquid odorant to drop into the line through the sight feed. The desired rate can be controlled by the sight feed valve. The necessary equipment and a drum of Cal-odorant, of which I am more familiar, are then taken to, and the installation made at the border station of the town selected as first to be odorized in that district.

Odorizing a City

Unlike odorizing a city of many thousands of services, no exact control of the amount of odorant injected seems necessary. However, this can be done by regulating the number of drops per minute into a constant load, such as a small town requires. We began at the rate of 3 gallons per 1,000,000 feet, a low concentration, but soon realized we were not locating the leaks we were so positive existed. A few indoor leaks were found and it was decided to load the gas with Cal-odorant for outside leak detection. Even with the gas thoroughly saturated at existing pressure and temperature, it takes several hours for the stench to penetrate the soil over the lines. With the low summer load in these small towns, a few gallons are sufficient to reach the maximum odorant volatility.

The distribution of leakage is not always known but with a known per cent of "unaccounted-for" as the objective, you can be reasonably certain that if the minor complaints do not approach this per cent the loss is in the main line. The number of complaints is a function of two factors. First, the intensity of the odor of the gas, and second, the condition of the distributing plant. In one town only two or three small leaks were found the first couple days, but later when a broken tee on the intermediate line was located the night load, which is indicative of the loss, dropped 80 per cent. In another town of equal size the following classification of leaks was reported: Appliances, 41; house piping, 21; meters and regulators, 101; service lines, 7; main lines, 9. From these two examples it is apparent that unless a very positive knowledge of the condition of the plant is known, a thorough survey must be made. The present city plant operator is often handicapped by the lack of correct prints or information passed on to him by prior superintendents. Leaky nonchartered abandoned lines are often located in some cases, meter bypasses that some customer failed to get gas tight.

The reports from the several towns odorized compared very closely. The per cent of decrease in volume passing the city border stations after odorization and repairs varied from 14 per cent to 62 per cent. Other conditions remaining the same this can be taken as the per cent of "unaccounted for." One town dropped from 222 m.c.f. to 153 m.c.f., a reduction of 31 per cent; another from 150 m.c.f. to 85 m.c.f., a reduction of 43 per cent; another from 55 to 21 m.c.f., a 61 per cent reduction. Sometimes the approximate locations of probable leaks are known but the stench aids materially in finding them.

Equipment Used

C. B. Day has supervised the odorizing work done by his company in Oklahoma. The equipment used is similar to that used by our company. Ethyl mercaptan was the liquid used as the stench. They report some very conclusive evidence to show how the work affected the leakage in several towns. I want to thank Mr. Day at this time for giving me permission to quote the figures which follow:

LEAKAGE IN M.C.F. PER YEAR

City	Before	After	Decrease	Mercaptan used (lbs.)
1	2,775	766	2,009	9
2	4,538	1,821	2,717	10
3	39,903	22,596	17,307	15
4	6,794	4,047	2,747	10
Total decrease m.c.f. ..			24,780	*40

*Cost $60.
Value of gas saved based on the original purchase price, $3,177.85.

They began by using 10 pounds per 1,000,000 feet the first day and increased it to 50 pounds per 1,000,000 feet until the survey was completed which usually took three to five days depending on the size of the town. The inspection crew located and spotted the leaks on a map, then the odorizer was cut out and repair crew went to work. Even though the "unaccounted-for" figure is low and it seems uneconomical to make a complete leakage survey in the larger cities, some check should be taken. The larger cities have conduits, underground vaults, manholes, etc., which are terminals and repair points for other utilities. Leaking gas lines often fill these places with an explosive mixture that might be brought to the operators' attention with a "bang." The lower explosive limit of natural gas being 4.8 per cent gas it can be realized that a small leak can soon cause this condition.

The Oklahoma Natural Gas Co. uses a

(Continued on Page 81)

*Before Gas Measurement Short Course, Norman, Okla.

Bureau of Mines to Store Stripping Plant Residue

DALLAS, Tex., July 9.—The U. S. Bureau of Mines may soon begin a series of experiments with restoring natural gas back into the ground as a method of preventing further daily wastage of 1,000,000,000 feet of gas in the Texas Panhandle, E. L. Rawlins, chief natural gas engineer for the bureau, said at a meeting of Texas and Oklahoma gas engineers at the Lone Star Gas Co.'s offices here.

Representatives of 11 major gas companies in the Panhandle were present to study data obtained by the Lone Star during an experiment with gas restoration in Wheeler County in June.

Mr. Rawlins said he would seek immediate approval of his plans for experimentation from bureau officials in Washington.

J. H. Dunn, Lone Star production engineer who supervised the Lone Star experiment, was named chairman of a committee of engineers representing each gas company present to conduct further experiments on the practicability of returning residue gas from stripping plants back into the ground. Under the so-called sour gas law passed recently, stripping plants blow 97 per cent of the heating value of gas into the air after stripping it of gasoline.

Opinion at the meeting was that the Lone Star experiment had proven that gas can be returned to the ground.

Frank L. Chase, vice president and operating manager for Lone Star, was elected chairman of the meeting.

In the experiment, gas was forced back into the ground with natural pressure of the field. Subsequent experiments will be conducted with mechanical compression of a much higher pressure.

WACO RATE REDUCTION

WACO, Tex., July 9.—Voting 4 to 1, the city commission passed an ordinance reducing the gas rate in Waco to domestic consumers approximately 15 per cent. It becomes effective immediately.

The Texas Cities Gas Co. will appeal to the Railroad Commission to suspend the rate, pending a hearing. If this be refused, application will be filed in the Federal Court to enjoin the enforcement of the ordinance. In this connection the company must contend with the recently enacted Johnson bill, which provides that rates cases must first be tried in the various state courts before the aid of the Federal Courts is invoked.

TILLSONBURG SUPPLY

TILLSONBURG, Ontario, July 7.—Contract has been made by E. P. Rowe and associates of the Prairie Oil & Gas Co. for sale of the natural gas from No. 3, on the Mrs. Elwin Stilwell farm, south of Tillsonburg, to the Dominion Natural Gas Co. The production will be piped to Tillsonburg. Nos. 1 and 3 producers have opened a new field near Eden, and further drilling is being started. No. 3 is reported good for more than 1,000,000 feet a day, open flow. As a result of the strike, several companies are leasing in the Eden district, approximately 5 miles south of Tillsonburg.

GAS COMPANY REFUNDING

EDMONTON, Alberta, July 7.—Northwestern Utilities, Ltd., has applied to the Alberta Board of Public Utility Commissioners for approval of refunding of the company's present first mortgage 7 per cent sinking fund gold bonds to the amount of $4,000,000. The new issue will be dated June 1, 1934, and mature June 1, 1949.

PERSONAL PARAGRAPHS

J. E. FLANAGAN, head of the Texas Company land department, Tulsa, is reported fishing in Minnesota.

* * *

J. M. CORCORAN, Tulsa, representing Trimont Manufacturing Company, Boston, Mass., has recently returned from a trip to Pennsylvania and Ohio.

* * *

EDWARD W. BARR, formerly deputy oil and gas supervisor of the Texas Railroad Commission at Tyler, is now an independent contractor in East Texas.

* * *

GEORGE A. DYE, vice president, Wilcox Oil & Gas Company, Tulsa, has been on a vacation trip to Emo, Ontario, Canada, for the past two weeks, accompanied by his family.

* * *

CHARLES NOBLE, who was scout at Oklahoma City, Okla., for the Superior Oil Company of California, is now chief scout of its Texas division with headquarters at Houston, Tex.

* * *

W. R. BOYD, JR., CHARLES BUERGER, C. B. WATSON, and A. K. McLAUGHLIN, members of the Board of Review were in Washington, D. C., hearing appeals from the rulings of the various allocators and allocating agencies.

* * *

GEORGE H. McINTYRE, Fort Worth, Tex., division operations manager in Texas, New Mexico, North Louisiana and South Arkansas for the Continental Oil Company, has resigned to enter private business. He has been with the company for seven years.

* * *

CHARLES L. SUHR, president of the National Petroleum Association, was in Washington, D. C., on business July 5.

* * *

D. D. BRUTON, independent operator, Houston, Tex., and his wife, have been in Colorado for a summer vacation trip.

* * *

EMBY KAYE, vice president of the Skelly Oil Company, has returned to Tulsa from a vacation which he and his family spent at Lake Charles, La.

* * *

E. A. SHOWERS, member of the firm of Showers & Moncrief, Houston, Tex., accompanied by MRS. SHOWERS, is spending a summer vacation in Colorado.

* * *

ALBERT PLUMMER, independent oil operator, Houston, Tex., has left with his wife and daughter, for a pleasure trip to Chicago, New York and other eastern points.

* * *

H. T. ASHTON, president, Lubrite Refining Company, St. Louis, Mo., was in Washington, D. C., for a few days in connection with the meeting of the Labor Subcommittee of the Planning and Coordination Committee.

* * *

AMOS L. BEATY, chairman of the Planning and Coordination Committee, has announced that he will said for Europe, July 14. He will leave Washington, D. C., July 10, and expects to be gone for about two months.

* * *

WIRT FRANKLIN, former chairman of the Planning and Coordination Committee, has returned to Washington, D. C., after a long rest taken to regain his health. He is attending the sessions of the P. and C. Committee.

DR. WILLIAM CLIFFORD MORSE, formerly head of the geological department of the Mississippi State College, has been made state geologist of Mississippi, succeeding the late DR. E. N. LOWE.

* * *

WALTER B. PYRON, vice president and manager of the Gulf Oil Company, has returned to Los Angeles, Calif., after attending the annual Texas National Guard encampment. He is a lieutenant-colonel in the Texas guard.

* * *

C. A. JOHNSON, president of the Wyoming-California Petroleum Company, of Los Angeles, Calif., was in Rock Springs, Wyo., on an inspection trip of the company's properties in the South Baxter Basin area.

* * *

PAUL HEDWIG, junior petroleum engineer with the Casper, Wyo., office of the U. S. Geological Survey, has been transferred to Washington, D. C. His appointment to senior petroleum engineer with the survey has been approved.

* * *

WILLIAM PRICE, of Black, Sivalls & Bryson, Inc., tank manufacturers, is making a survey of the Central Michigan oil and gas fields for his company. For several years Mr. Price was Rocky Mountain representative for Black, Sivalls & Bryson.

* * *

F. D. MAHONE, of the engineering department of the Petroleum Rectifying Company of California, recently returned to his home in Los Angeles after an extended business trip through the Rocky Mountain states, checking plant operations in the various fields in Montana and Wyoming.

M. M. KINLEY, of the M. M. Kinley Company, Tulsa, has moved his residence temporarily to Houston, Tex., where he is establishing branch facilities.

* * *

C. C. CARLISLE, geological engineer of Sinclair Prairie Oil & Gas Company, who has been in the Nowata-Washington-Rogers, Oklahoma, district, has been transferred to Casper, Wyo. JOHN TONEY has taken over Mr. Carlisle's duties at Nowata.

* * *

JIMMIE GRAFTON, scout for Superior Oil Company of California in Houston, Tex., is being transferred from the Texas Gulf Coast district to Louisiana, where he will scout the southern part of the State. CHARLIE NOBLE is being transferred from Oklahoma to assume Mr. Grafton's duties on the Texas Gulf Coast.

* * *

DR. MAX G. PAULUS, vice president in charge of manufacturing, and C. J. BARKDULL, vice president and treasurer of the Standard Oil Company (Indiana), Chicago, visited Casper, Wyo., on an inspection trip through the refinery and attended a joint meeting of committees representing employes in the plant and the Greybull refinery at the Industrial Relations Building in Casper.

* * *

CLYDE MAYNARD and C. L. BENEZETTE, Michigan managers of Oil Well Supply Company stores at Mount Pleasant and Muskegon, have exchanged positions. Mr. Benezette, Muskegon manager for several years, is now in charge of the Central Michigan headquarters in Mount Pleasant, while Mr. Maynard is in charge of the western Michigan store and warehouse in Muskegon.

* * *

J. H. EVANS, president of the Devonian Oil Company, Tulsa, is spending the summer with his daughter at Rydal, Pa.

* * *

WILLIAM HENDRICKS has been appointed superintendent in charge of field operations in California of the Graham & Loftus Oil Corporation.

* * *

CECIL V. HAGAN, former geologist for the Feltex Oil Corporation in Houston, Tex., has recently accepted a position with the South Coast Oil Corporation.

* * *

S. S. SMITH, general superintendent gasoline department, Shell Petroleum Corporation, and NORRIS PLANK, from the Tulsa office have been on an inspection trip in the Pampa and Borger districts, in Texas.

* * *

GEORGE M. SWINDELL, of the California Oil Producers Sales Agency, has been appointed editor of "The Open Road," distributed to the consuming public by service station operators in the interest of tax reduction and to stimulate gasoline consumption.

* * *

C. H. WARTMAN, who has been assistant manager of the northern division of the General Petroleum Corporation, has been transferred to the Los Angeles, Calif., headquarters and advanced to the position of manager of the company's refined oil sales.

* * *

MR. and MRS. ROBERT McGREGOR have returned from Talara, Peru, to Petrolia, Ontario, where they have leased a home for the summer. Their daughter, MISS JEAN McGREGOR, who has been attending the University of Toronto, will spend the summer with them.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

July 12, 1909

Judge Campbell, of Muskogee, hands down a decision that the Oklahoma statute prohibiting the shipping of natural gas out of the State is unconstitutional. The Kansas Natural Gas Co. and other concerns brought suit against Oklahoma officials and won.

Cia Mexicana de Petroleo, "El Aguila," has increased its capital stock from $1,000,000 to $25,500,000, and has taken in some Mexican capitalists as shareholders and office holders.

20 Years Ago

July 16, 1914

The financing of the Cosden Refining Co. capital stock, $10,000,000 in New York, London and Paris, is another evidence that confidence in Oklahoma investments has been restored. The attitude of the state legislature toward corporations has kept much capital out of Oklahoma in the past.

Fifteen thousand men are reported on strike in the Baku, Russia, oil fields.

Senator Owen of Oklahoma is said to be considering the introduction of a proposed amendment to the Trade Commission Bill, which would divorce pipe lines from producing and refining companies.

10 Years Ago

July 10, 1924

C. W. Lewis has been appointed sales manager of the Cities Service Refining Co.'s new oil division in New England, with headquarters in Boston, Mass. He has been with Doherty companies since 1916.

Sinclair Refining Co. has shipped its first cargo of gasoline made from light gravity crude in its new high pressure stills at its Houston, Tex., plant.

By forcing water under very high pressure through the lead line of a burning well in Cromwell, Okla., Tidal Oil Co. snuffed out a fire while the well was producing about 90 bbls. per hour. The Tidal's men were assisted by M. M. Kinley, Tulsa fire fighter.

Mrs. Anna O'Neil, mother of John and Henry O'Neil, pioneer Gulf Coast oil operators, dies in Houston, Tex.

The Mid-West Oil Co. will drill two tests in the Salt Creek Field to explore deep horizons. Up to this time the Lakota, second Wall Creek, Sundance, Embar and Tensleep sands have never been drilled to in Salt Creek.

RICHARD BLOSS, general manager, International-Stacy Corporation, Columbus, Ohio, was in Tulsa recently on business.

* * *

H. N. PARDEE, assistant division manager of production, Texas Company, Tulsa, was married to MISS ESTHER FITZPATRICK of Tulsa, last week.

* * *

CAMPBELL M. HUNTER, O.B.E., president of the Hunter Valley Oil Company of Calgary, who has been spending some weeks in Canada, left recently for London, England.

* * *

GEORGE H. McINTYRE is now an independent oil operator of Fort Worth, Tex. He was until recently division operations manager for the Continental Oil Company for Texas, New Mexico, North Louisiana, and Arkansas.

* * *

D. B. STRIPLIN, general manager of the Chemical Process Company of Breckenridge, Tex., is in a Dallas hospital, recovering from an automobile accident suffered in New Mexico. He was transported from Carlsbad to Dallas by airplane.

* * *

R. D. (BOB) FELTNER, independent operator of San Antonio, Tex., formerly in charge of the land department for the Southern Crude Oil Purchasing Company at Fort Worth, Tex., was a business visitor in that city during the week.

* * *

CHARLES F. ROESER, of Roeser & Pendleton, Inc., oil operators, and vice chairman of the Planning and Coordination Committee, enforcing the oil code, is preparing to join MRS. ROESER at Colorado Springs, Colo., for a long vacation.

* * *

V. C. FULLER, purchasing agent, of the Gypsy Oil Company, is on his vacation.

* * *

S. R. CLINKSCALE, manager of pipe sales for the Frick-Reid Supply Corporation, is taking a vacation trip through the Southwest.

* * *

A. O. OLSON, president of the Olson Oil Company, is motoring to the Atlantic Coast where he will take a boat down the Atlantic Coast through the Panama Canal and up to San Francisco, Calif.

* * *

E. V. LOWEREE, formerly in the scouting department of the Texas producing division of the Pure Oil Company, has been transferred to the Southwest producing division of the company which has headquarters at Tulsa.

* * *

TOM BOUNDS, district superintendent for Humble Oil & Refining Company, at Gladewater, Tex., has been transferred as assistant division superintendent of the East Texas division with headquarters at Tyler, Tex. A. O. BEHLING was made division superintendent of the San Antonio division, replacing D. B. HARRIS.

* * *

JAMES D. CUMMINGS, of the firm of Crutcher, Rolfs, Cummings, Inc., Houston, Tex., has returned to the home office after three months spent in the field. Two and one-half months were spent by Mr. Cummings in servicing equipment furnished by his company on a large Oklahoma and Kansas pipe line job. The past two weeks he spent renewing acquaintances with friends in Chicago, Lima, Findlay, Kansas City, and St. Louis.

* * *

K. R. KINGSBURY, president of Standard Oil Company of California, has been elected president of the Pacific Coast Petroleum Agency, and A. L. WEIL, president of General Petroleum Corporation and CHARLES S. JONES, executive vice president of Rio Grande Oil Company, were elected vice presidents of the new agency. C. E. OLMSTED, president of the Texas Company of California, was elected secretary-treasurer, and W. C. VAN FLEET was appointed general manager of the new agency.

Oversees Pure Oil's Toledo Plant

O. B. Wendeln, superintendent of the Toledo, Ohio, refinery of the Pure Oil Company, was born in St. Marys, Ohio, October 18, 1900. He attended the public school and two years of high school in St. Marys, subsequently finishing his high school education at Rutgers Preparatory School in New Brunswick, N. J. Mr. Wendeln then attended Purdue University in Indiana for one year, followed by three years at the University of Pittsburgh School of Mines, where he graduated with the degree of petroleum engineer.

O. B. WENDELN

Mr. Wendeln's first employment after leaving the university was with the Martinez refinery of the Shell Oil Company of California, where he worked for six months. He went from there to the Pure Oil Company's geological department in 1922, later being transferred to the control laboratory. He continued to work in the control laboratory until he was transferred in 1924 to Cabin Creek refinery in West Virginia as resident chemist.

When the first Gyro unit was constructed at Cabin Creek in 1928 Mr. Wendeln was placed in charge, and he remained there until 1929 when he was transferred to the distillation department. He then spent about two years among the various refineries, assisting in the starting of Gyro operation and in the interim went to England for the same purpose.

Mr. Wendeln was appointed superintendent of the Toledo refinery upon its starting of operations and he has continued in that position until the present time. In 1931 he married Miss Suzanne Berdux of Waterloo, Ontario, and they have one daughter.

MR. and MRS. C. F. YOUNG are making an automobile tour of the western states during his vacation. Mr. Young is purchasing agent for the Stanolind Oil & Gas Company, Fort Worth, Tex.

* * *

M. A. L. BANKS, B.Sc. Tech., of the Anglo-Persian Oil Company, has been elected a Fellow of the Institute of Chemistry of Great Britain, and W. J. GALLOWAY, M.Sc., of the company's Abadan staff, an associate.

* * *

C. S. REEDER, R. G. WRIGHT, L. K. WRIGHT, and J. B. JONES, all of Knoxville, Tenn., visited C. B. JETTER, Muskegon oil man, in Muskegon, Mich., last week on oil development business. Mr. Jetter has been active in western Michigan oil developments for several years.

* * *

A. L. McGRAW, formerly manager at Erick, Okla., for the Central State Light & Power Company, is now head of the Holdenville, Okla., office. SABE SMITH, gas superintendent at Holdenville, has been transferred to Oilton, Okla., and F. T. ATCHISON was transferred from Okemah, Okla., to Holdenville.

* * *

MR. and MRS. GLENN HARROUN and MR. and MRS. TOM EVERETT spent a few days in Cloudcroft, N. Mex., during the week, traveling in one of Mr. Harroun's airplanes. Mr. Harroun is head of the producing department of Sinclair Prairie Oil Company, and Mr. Everett is representative of Sinclair Prairie crude oil marketing department, both of Fort Worth, Tex.

* * *

GEN. JAMES G. STEESE, vice president of the Centorp Corporation, Tulsa, has left for Washington, D. C., New York and Boston, after which he will sail for London, England, as a United States delegate to the International Congress of Engineers to be held there July 17 to 19. Upon the conclusion of the congress General Steese will make a pleasure trip to Paris and North Africa before going to Warsaw, Poland, as a United States delegate to the International Geographic Congress, returning to Tulsa about the middle of September.

R. G. MARTIN, purchaser, Deep Rock Oil Corporation, Tulsa, returned from a fishing trip in Minnesota.

* * *

H. J. LOCKHART, president of the Parkersburg Rig & Reel Company, Parkersburg, W. Va., was a visitor in the Mid-Continent fields.

* * *

S. F. SHAW has returned to Oklahoma City, Okla., to remain during July, after having made a trip to the East Texas, Conroe, and Jacob Pools in Texas.

* * *

LEE CORNELL, scout in the Kansas district for the Stanolind Oil & Gas Company and president of the Kansas Oil Scouts Association, has returned from Chicago.

* * *

BOB THOMPSON, geologist for the Danciger Oil & Refining Company, is back in Fort Worth, Tex., after spending several months on the Gulf Coast on company business.

* * *

B. C. McMULLIN, district manager of North Texas, West Texas, Hobbs, N. Mex.; Arkansas, and Louisiana for the Republic Supply Company, is being transferred to Fort Worth, Tex.

* * *

W. J. MORRISON, superintendent of drilling and production for H. F. Wilcox Oil & Gas Company, made a trip via airplane from Tulsa to Pampa, Tex., relative to the company's new drilling in the Texas Panhandle.

* * *

TOM JOHNSON, Wichita operator and chairman of the Kansas Federal production committee under the code, is at Georgian Bay on Lake Huron, Canada, where he will be the guest of JUDGE JOHN POLLOCK, Federal judge in Kansas, at his summer home.

* * *

E. A. SATCHELL, production superintendent of the Iraq Petroleum Company, has returned to London, England, from his visit to Iraq.

* * *

A. T. WHITE and E. G. V. WILLIAMS have arrived at Bahrein Islands, and will be away for some time on business for B. & R. Redwood, London, England.

* * *

J. B. AUG. KESSLER, joint managing director of the Royal Dutch Petroleum Company, was given a reception by the Rumanian Association of Petroleum Industrialists during his recent visit to Rumania.

* * *

RALPH B. ROARK, manager of production for the Oklahoma, Kansas and West Texas divisions of Shell Petroleum Corporation, has returned from an extended trip to the main office at The Hague, Holland, and various foreign fields. His wife accompanied him on the trip.

* * *

J. P. (JACK) CUSACK, who resigned as head of the Kansas land department for the Skelly Oil Company, is reported to be going to West Texas where he has leasing and royalty interests. D. N. HILL, formerly manager of the crude oil purchasing division, Skelly Oil Company, with offices at Eldorado, Kans., has gone to Wichita to take the place vacated by Mr. Cusack.

* * *

W. L. STEWART, JR., of Union Oil Company, and GEORGE WILLIAMS, of Hancock Oil Company, have been appointed on a labor subcommittee named by California operators to represent refiners; J. U. STAIR of Shell Oil Company, and R. A. BROOMFIELD of Barnsdall Oil Company, have been named to represent production; R. T. HERNDON of the Texas Company and E. R. SHELDON of Sunset Pacific Oil Company, to represent marketing; A. M. KELLY of Richfield Oil Company and R. E. COYLE of Associated Oil Company, to represent transportation; and A. S. RUSSELL of Standard Oil Company of California and H. J. BARNESON of Norwalk Gasoline Company to represent natural gasoline manufacturers.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended July 7 Sales	Week ended July 7 High	Week ended July 7 Low	Week ended July 7 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
55⅝	41½	2,800	51¼	50	51	Amerada Corp.	774,875	N.P.	50cQ	7-31-34	47⅝	18½	22¾	12	23	11¼
35¼	21¾	3,800	25½	24⅝	25⅜	Atlantic Refining	2,665,234	$25	25cQ	6-15-34	32½	12⅝	21⅞	8⅝	23⅝	8⅝
10	7	3,400	7½	7	7⅜	Barnsdall Corp.	2,248,795	$5	....	5-11-31	11	3	7	3⅜	14½	4
19¼	11⅛	18,300	14¼	13⅜	13⅜	Columbia Gas & Elec.	11,610,036	N.P.	12½cQ†	5-15-34	28⅛	9	21	4¼	45⅝	11⅝
14¼	9½	14,800	10⅜	10	10⅜	Consolidated Oil Corp.	14,218,835	N.P.	28c	4- 7-34	15¾	5	9	4	15⅞	4⅛
22¾	16½	11,300	19⅞	18¾	19⅝	Continental Oil of Delaware	4,738,593	$5	25c	4-30-34	19⅝	4⅞	9⅝	3⅝	12	5
22¼	15⅛	700	18⅝	17⅝	18⅝	General Asphalt	387,149	$10	....	6-15-32	27	4⅝	15½	4¾	47	9⅝
5¾	3¼	100	3⅝	3⅝	3⅝	Houston Oil (new)	1,098,618	$25	....	10-17-30	7⅜	1⅞	5⅜	1⅛	14⅛	3
3⅝	1¾	No sales ..	..	..	..	Louisiana Oil Refining	1,302,158	N.P.	....	.....	4	⅝	2¼	½	4½	1
14⅜	11	1,600	13	12⅜	13	Mid-Continent Petroleum	1,857,912	N.P.	25c	5-15-34	16	3¾	8⅞	3¾	16¾	5
20¾	11½	800	15¾	15¼	15¾	National Supply of Delaware	382,591	$25	....	5-15-31	28⅝	4	13	3½	10¼	5
15⅞	10½	4,500	11¼	10⅞	11⅛	Ohio Oil Co.	6,563,107	N.P.	15c	6-15-34	17⅝	4¾	11	5	19½	5⅛
8⅝	6½	1,400	7⅛	7	7⅛	Pacific Western Oil	1,000,000	N.P.	25c‡	10-25-33	9½	3	8	3	15	2⅞
2½	1¼	400	1⅜	1¼	1⅜	Panhandle P. & R.	198,770	N.P.	....	.....	4¼	⅜	1¼	¼	4¼	⅝
20¾	15⅛	7,400	17⅞	17	17½	Phillips Petroleum	4,154,687	N.P.	25c	5-14-34	18¾	4¾	8½	2	16⅝	4
16¾	10	500	12	11½	12	Plymouth Oil Co.	990,261	$5	25cQ	6-30-34	17⅝	6¾	12½	6	18	6
14⅞	9⅜	4,200	10⅜	10	10¼	Pure Oil	3,038,370	N.P.	....	9- 1-30	15⅜	2½	6½	2⅞	11⅞	3¼
39¼	33	400	35⅛	35⅛	35⅛	Royal Dutch N. Y. shares	432,224	$14	$1.07½	8-14-33	39¾	17⅝	23¾	12¼	42⅝	13
28⅜	25⅜	1,800	31¾	31	31¾	Seaboard Oil of Delaware	1,204,460	N.P.	15cQ§	6-15-34	43⅜	15	20⅜	6⅝	20¾	5½
11⅞	7⅝	2,600	8¼	7¾	8	Shell Union Oil	13,070,625	N.P.	....	6-30-30	11⅝	4	8¾	2½	10¼	2½
89	58	No sales ..	..	..	..	Shell Union Oil pfd.	400,000	$100	....	7- 1-31	61	28½	65¼	18	78	15
11¼	8¼	500	10¼	9¾	10	Simms Petroleum	461,000	$10	30c	8- 1-34	12⅜	4⅞	7½	3¼	11	3½
11½	7⅞	200	9⅜	9¼	9⅜	Skelly Oil	1,008,514	$25	....	12-15-30	9⅞	3	5¾	2½	12⅞	2
19⅞	14	21,900	16¼	15⅜	16¼	Socony-Vacuum	30,905,006	$25	15cQ	6-15-34	17	6	12¼	5¼	21	8⅜
42⅞	30⅝	5,800	35	33¾	34⅞	Standard Oil of California	13,102,900	N.P.	25c	6-15-34	45	19½	31⅞	15⅛	51¾	23⅛
41	33⅞	No sales ..	..	..	..	Standard Oil of Kansas	200,000	$10	50cQ	7-31-34	39⅞	12¾	16½	7	19	7¾
50⅛	41⅛	15,700	44½	43¼	44⅜	Standard Oil of New Jersey	25,740,965	$25	50cSA	6-15-34	47½	22⅜	37⅜	19⅞	52½	26
63⅞	51½	500	62	61¾	61⅞	Sun Oil	1,733,013	N.P.	25cQ	6-15-34	59	35	39⅞	24⅜	45¼	26¾
29⅜	21½	7,200	24	23⅜	23⅞	Texas Corp.	9,352,371	$25	25cQ	7- 1-34	30⅛	10⅜	18¼	9¼	36¼	9⅞
6½	3⅛	600	4	3⅞	3⅞	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	6½	1⅝	4	1½	6½	1⅞
14¼	8½	5,800	12⅜	11⅝	12¼	Tide Water Associated	5,618,672	N.P.	....	2-16-31	11¾	3⅛	5⅝	2	9	2⅛
84¾	64½	400	83	81½	83	Tide Water Associated pfd.	666,524	$100	$1.50Q	4- 1-34	65¼	23½	60	20	68	20½
20½	15	1,700	16½	15⅞	16½	Union Oil of California	4,386,070	$25	25cQ	5-10-34	23⅜	8½	15⅜	8	26⅝	11
21¼	15¾	800	19	18½	18¾	Union Tank Car	1,200,000	N.P.	30cQ	6- 1-34	22¾	10½	19¼	11¾	25⅛	16
5¾	3½	700	3¾	3½	3½	Wilcox Oil & Gas	424,839	$5	....	5-10-28	5½	2	8¾	2¾	9⅜	2¾

*Ex-dividend. †Payable in 5 per cent convertible preferred stock. ‡Initial dividend. §Plus extras.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended July 7 Sales	Week ended July 7 High	Week ended July 7 Low	Week ended July 7 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
38	31¾	No sales ..	..	..	..	Buckeye Pipe Line Co.	200,000	$50	75cQ	6-15-34	39¾	25	35	17½	56	30
5½	2⅝	1,500	3⅝	3⅜	3½	Carib Syndicate	579,000	25c	....	.....	7¾	¼	¾	¼	2⅜	¼
126½	115	100	121⅜	120½	121⅜	Chesebrough Mfg. Co.	120,000	$25	$1Q†	6-29-34	129	71	90	53	129½	75
4¼	1⅜	25,700	2⅛	2	2⅛	Cities Service	37,804,394	N.P.	....	6- 1-32	6¼	1½	6⅞	1¼	20¾	5
3¼	1¼	100	1⅜	1⅜	1⅜	Colon Oil	2,200,000	N.P.	....	.....	4	¼	1¼	¼	3½	¼
3⅞	1⅝	600	2⅛	2⅛	2⅛	Cosden Oil	399,687	$1	....	.....	3⅞	1⅜	2⅞	¼	3¾	⅝
13⅜	9⅝	3,100	12¼	12	12¼	Creole Petroleum	6,974,356	$5	....	.....	12	4¾	3⅛	1¾	3⅞	1⅝
7½	4⅜	500	7⅛	7	7⅛	Darby Petroleum	509,696	$5	25c	2-15-34	8	2⅛	7⅛	1⅝	2½	1⅝
2¼	1⅝	No sales ..	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	2¾	⅞	3	1	6	1½
36	31	No sales ..	..	..	..	Eureka Pipe Line	50,000	$100	$1Q	8- 1-34	41¾	20	35	18	36	19
76¾	56½	1,500	64½	62⅝	64¼	Gulf Oil Corp.	4,538,101	$25	....	10- 1-31	62	24	44¾	23	75½	25⅝
46⅜	33½	6,100	41¾	40¾	41½	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7- 1-34	105½	40	55	35⅝	72	44½
15½	12⅝	5,000	15¼	14⅝	14¾	Imperial Oil of Canada	26,857,152	N.P.	25cSA†‡	6- 1-34	15⅞	6½	10⅞	6¼	18¼	7⅜
6⅞	3⅞	600	4⅜	4⅛	4⅜	Indiana Pipe Line	300,000	$10	15cSA	5-15-34	8	3⅛	7½	2¾	21⅛	5½
30⅝	19⅜	5,000	27⅞	27	27⅝	International Petroleum	14,247,088	N.P.	56cSA†‡	6- 1-34	23½	8⅞	12¼	8	15½	7⅜
3¾	2⅛	7,800	4	3¾	3⅞	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	2¼	⅝	2½	½	2	½
5⅞	4	300	3⅝	3½	3½	Lion Oil Refining	270,000	N.P.	....	10-27-30	9½	1¾	3½	⅞	6¾	1½
8¾	4¾	2,200	5¾	5¼	5⅝	Lone Star Gas	5,382,723	N.P.	16cQ§	3-31-34	11⅞	4¾	11	3⅜	29	5½
5½	4	400	5⅛	5	5	Mountain Producers	1,593,584	$10	15cQ	4- 2-34	6½	2½	4⅝	2⅛	5⅞	2
18⅛	14	200	15	15	15	National Fuel Gas	3,810,183	N.P.	25cQ	4-16-34	20	10	14⅝	8	26½	9¾
9½	7⅝	No sales ..	..	..	..	National Transit	509,000	$12.50	40cSA	6-15-34	10	5½	10½	6	17½	5
2¼	1¾	1,000	2⅜	2¼	2¼	New Bradford Oil	1,445,202	$5	10c	3-15-34	2⅛	½	⅞	¼	1½	½
2¾	1	200	1⅜	1¼	1⅜	New Mexico and Arizona	1,000,000	$1	....	.....	1⅞	½	1¼	⅜	3	¾
4¾	3	No sales ..	..	..	..	New York Transit	100,000	$5	15cSA	4-14-34	4⅞	3	9¾	7½	14½	5⅞
7	4⅝	100	6½	6½	6½	Northern Pipe Line	120,000	$10	25cSA	1- 2-34	6⅛	4¼	5½	3⅛	35½	20
2⅝	⅞	3,400	1⅞	1⅝	1⅝	Pantepec Oil	1,608,700	N.P.	....	.....	3¾	⅛	⅝	1/16	2	⅜
3¼	1	400	1	1	1	Ryan Consolidated	296,931	N.P.	....	.....	4¼	⅝	2½	⅝	3	¾
7⅞	5¾	No sales ..	..	..	..	Salt Creek Producers	1,496,859	$10	20cQ	8- 1-34	9¼	3½	5½	2⅞	7⅝	2¾
26½	17½	1,900	25	24½	24¼	South Penn Oil	1,200,000	$25	30cQ	6-30-34	22⅛	11	16½	9⅝	23⅞	9¼
5¼	4	No sales ..	..	..	..	Southern Pipe Line	100,000	$10	10cSA	3- 1-34	6	2⅛	10	3¾	17	7
47	41	No sales ..	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1Q	7- 2-34	43	24½	37	27	42½	25
32¾	25	9,400	27⅜	27⅛	27⅛	Standard Oil of Indiana	15,528,504	$25	25cQ	3-15-34	34	17	25⅛	13⅛	38½	13½
17⅝	14⅝	1,700	16½	16⅛	16½	Standard Oil of Kentucky	2,606,983	$10	25cQ	6-15-34	19¼	8⅜	15⅞	8⅞	23⅜	12⅛
16⅝	12⅞	100	13¼	13¼	13¼	Standard Oil of Nebraska	190,822	$25	25cQ	6-20-34	20½	11	19	10¼	36½	16
27½	18¼	300	19½	19	19½	Standard Oil of Ohio	753,740	$25	....	1- 3-33	41	15½	30⅛	15½	62½	23
2	1/16	800	1⅜	1¼	1⅜	Sunray Oil	1,162,840	$5	....	4-15-31	1½	¼	⅝	⅛	5¼	¼
11	4⅝	500	5⅞	5⅞	5⅞	Texon Oil & Land	936,028	N.P.	15cQ	6-30-34	13¾	6¼	10½	4½	12⅞	2½

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Leak Detection in Low Pressure System

(Continued from Page 77)

Mines Safety Appliance combustible gas indicator in this work and has found it quick and reliable. Tests are run periodically to be certain that these vaults remain harmless. A brief description of the principle of operation follows:

The sample is drawn in through a flexible hose by means of an aspirator bulb. It passes through a flash-back arrester, a flow orifice, then to the combustion chamber where it is burned on the surface of a heated platinum wire filament. The heat is provided by two 6-volt dry cells installed in the instrument. The combustion of any burnable gas in the mixture causes a rise in filament temperature and brings about a change in electrical resistance in proportion to the per cent of combustibles present. This is indicated by a milliammeter calibrated to show this per cent. The instrument cost about $135.

Two men can test about 100 manholes per day. When a group of manholes shows a positive test the location of the leak or leaks can be fixed by the varying per cent of combustibles in the manholes in different directions. This indicator can be used in testing for possible gas leakage in any confined space, such as, meter boxes, basements, wall of a building, etc.

Oklahoma Fields

(Continued from Page 60)

tleton, SW cor. NW Section 20-9-5, was completed for 215 bbls. on a 48-hour swabbing test after acid treatment. Hunton lime was at 4,184-4,218 feet. Total depth was 4,223 feet in Sylvan shale.

Edging off the southeast corner of the Searight Pool, Carter Oil Co.'s No. 2 H. Joe, C W half NE SW Section 2-9-6, was drilling at 2,410 feet.

In and around the East Seminole sector there are four contingent completions, three of which look like Hunton lime producers, the other a dry hole. The list follows:

Crofton & Wallace's No. 1 Houlsee, SW cor. Section 8-9-7. Hunton at 4,115-85 feet; swabbed 50 bbls; treated with acid and now waiting.

Perkins and others' No. 1-A Cody, NW SW SE Section 18-9-7. Hunton at 4,051-4,100 feet, total depth; swabbed 27 bbls. in four hours.

Campbell's No. 1 Lorraine, NE SE NW Section 20-9-7. Hunton at 4,051-56 feet (small show of oil); Sylvan, 4,156 feet; Viola, 4,229 feet; total depth, 4,242 feet. Plugged back to Hunton and had a hole full of water. Plugged back to 3,475 feet in the Gilcrease, topped at 3,375 feet and produced 8,000,000 feet of gas, small show of oil and a hole full of water.

Summit Drilling Co.'s No. 1 Lozier, NW SW NW Section 20-9-7, produced 157 bbls. of oil after agitating the Hunton lime found from 4,079-4,130 feet. It will be reacidized.

St. Louis Area

In the north end of the St. Louis Pool, Jones and others had a show of oil in No. 1 Brandenburg, SW SE Section 3-7-4. Cromwell sand logged 3,474 feet and at 12 feet in sand they were rigging up standard tools.

A nice producer was had in Earl Halliburton's No. 2 Pierson, SE cor. NE Section 9-7-4, when it potentialed 2,650 bbls. in 48 hours from the Hunton lime which was penetrated at 3,682-3,720 feet, total depth. Production was after acid treatment.

Mid-Continent Crude Oil Purchasing Co. completed its No. 1 Atwater, NE SE SE Section 9-7-4, for 645 bbls. after the Hunton from 3,648-3,987 was acid treated three times. Total depth was 3,988 feet in Sylvan shale.

In the NW SW NE Section 10-7-4, Smithpoe Oil Co.'s No. 1 Phillips had an oil showing in the Cromwell sand at 3,555-56 feet. They were preparing to run the 6-inch casing at this depth.

Conley Drilling Co.'s No. 1 Vinson, NE cor. Section 13-7-4, remains uncompleted and continues to flow around 240 bbls. daily. Production is coming from the Simpson formation topped at 3,900 feet. Total depth is 3,983 feet.

Production was increased in Sayre and others' No. 1 Green, SW SE NW Section 15-7-4, after treating with acid the third time. Production is from the Hunton and Simpson dolomite formations, gauging 1,120 bbls. in 24 hours.

A failure in the Simpson dolomite was had in Superior Oil Co.'s No. 1 Caudle, SW NW NW Section 24-7-4 and the well is now being plugged back to the Hunton, which is the original producing formation. The Simpson record was 4,285-4,322 feet, total depth, water. The old total depth was 3,773 feet.

Sinclair Prairie's No. 3 Deathridge, SE NE NW Section 28-7-4, swabbed 817 bbls. of oil and 900 bbls. of water in 24 hours from Simpson formation at 4,080-4,154 feet, total depth. It has been plugged back to 4,153 feet, where it is shut down waiting on cement to set.

Vaughn and others' No. 2 Lowther, NE SW Section 33-7-4, south end of the St. Louis Pool, was a rig abandoned this week.

Jones and others' No. 2 Lucas, SW NE NW Section 2-6-4, is shut down with the 7-inch casing set and cemented at 4,094 feet. Viola lime was encountered at 4,085 feet, about 7 feet higher than it was found in No. 1.

There were three new operations started in the St. Louis sector during the week, as follows: Maud Oil & Gas Co.'s No. 1 Smith, NE cor. SW Section 2-7-4; Keyokla Oil Co.'s No. 2 McGee, NE SW SE Section 4-7-4, cellar and pits; Magnolia Petroleum Co.'s No. 2 Brister, NW SE NE Section 28-7-4, rig.

Pontotoc County

In the Beebe area of Pontotoc County, Moore & Deaner are getting a producer in No. 4 Gray, NW SE NE Section 25-5-4. The Viola lime was topped at 2,413 feet and at 2,441 feet the well swabbed 57 bbls. in eight hours. It was given a 50-quart shot at 2,593-2,603 feet, filling the hole 1,700 feet with oil. It is now being cleaned out.

Premier Investment Co. has completed its No. 3 Layne, NW SW NW Section 30-5-5. Production was from the Hunton lime at 2,250-60 feet after a 60-quart shot, flowing 192 bbls. in 24 hours. Total depth was 2,262 feet in Sylvan shale.

In the Fitts Pool, W. A. Delaney's No. 2 Craddock, northeast corner, topped the Viola at 4,032 feet, and at 4,130 feet (total depth) is shut down with the 7-inch casing cemented at 4,033 feet.

Another deep test in the Fitts area is Blackstock's No. 1 Lewis, NE SE Section 19-2-7, which was being cleaned out after a 15-quart shot on bottom at 4,671 feet. This well had the Simpson dolomite at 4,615 feet with nothing showing.

Magnolia Petroleum Co.'s No. 1 Lewis, SW cor Section 19-2-7, is flowing by heads from the Hunton lime at 3,717-3,989 feet. It was given an acid shot and last gauges recorded a flow of 164 bbls. in 24 hours and 280 bbls. in 48 hours.

J. C. Shaffer's No. 1-A Hardin, NE NW SW Section 30-2-7, is mudding off 40,000,000 feet of gas coming from sand at 2,423-35 feet, total depth.

First reports for this area were: Mid-Oklahoma Oil Co.'s No. 1 Mercer, SE cor. SW Section 24-5-4, rig; Southern Oil Corp.'s No. 1 Walker, NW SW Section 11-4-6.

Grady County

Mid-Western Oil, Inc., has a rig up for No. 1 Carter, NW NE SE Section 32-3-7w, Grady County, one-quarter mile south of the English Drilling Co.'s No. 1 Heenen-Coe, which has been shut down for nearly 18 months at 3,504 feet. The No. 1 Heenan-Coe has a sand from 3,255-87 feet which produced 15 bbls. of oil and 100 bbls. of water on the pump.

Jefferson County

Faylyn Oil Co. completed its No. 19 Seay, SE NW SE Section 3-7s-5w, in a thickly drilled area of Jefferson County. Sand was topped at 1,032 feet, and at 1,081 feet, total depth, pumped 30 bbls. in 24 hours.

Lish & McCall, attempting to make a producer out of their No. 1 Trout, SE cor. 18-7s-5w, has plugged back from 1,892 feet to 825 feet where a show of oil and water was encountered. They are now recementing at the bottom of the hole.

S. I. Kolb abandoned his No. 1 Barnett, NE NW SE Section 30-6s-5w, at a total depth of 2,206 feet after sand, sandy lime and lime at 1,573-1,630 feet and sand at 2,000-40 feet proved nonproductive.

Bridwell Oil Co. is starting a new one in this area, No. 2 Barnett, NE SW NE Section 30-6s-5w, which is rigging up.

Atoka County

It looks like Brookshire and others' No. 1 Rowland, NW NE NE Section 18-3s-10e, Atoka County, is going to be a dry hole. A show of oil appeared in sandy dolomite from 3,487-99 feet, but at a total depth of 3,581 feet the hole continues to show water after attempts to bail dry.

Stephens County

Mudge Oil Co.'s No. 7 Oliver was good for 8 bbls. daily from shallow sands from 575 to 635 feet, total depth. It is located in the SE cor. of Section 22-1s-5w, in the old Velma Pool of Stephens County.

In the north end of the Sholem Alechem Pool, Angle & Medlin have abandoned location for No. 1 Layne, SE SW SW Section 1-1s-4w. They plan to drill this location at a later date.

Carter County

Carter Oil Co. has added two more completions to the North Tatums Pool of Carter County during the past week, both of which were small producers. No. 3 Perkins, SE NE SE Section 4-1s-3w, was good for 15 bbls., oil coming from sand from 2,670-71 feet. No. 3 Mary Riddle, SW SE NW Section 4-1s-3w, tanked 10 bbls. from sand at 2,326-27 feet.

Gulf Coast Fields and Wildcats

(Continued from Page 62)

Windsor Oil Co.'s No. 1 Colby, 325 ft. from NW line and 330 ft. from NE line of 50-ac. lease in T. Sproggins Sur. ..... Spud.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 5 Seaborn, Austin-Williams Sur., 600 ft. E of No. 3 and 320 ft. S at R/A ..... Stuck D.S. 7,202 ft.; S.D. 6,250 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Miramar Oil Corp.'s No. 3 Hogg, 100 ft. N of No. 2 and 100 ft. from W line of lease ..... T.D. 5,360 ft.; P.B. 3,400 ft.; T.D. 4,901 ft.; top sand 4,840 ft.; D.S. test 4,837-4,901 ft. in 10 min. slight show gas and 20 fourbles mud.

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease in M. Varner Sur. ..... T.D. 2,810 ft.; reaming 2,650 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 3-B Gulf fee, 25 ft. out of SE cor. of lease ..... Top salt 1,402 ft.; drlg. shale 3,948 ft.

Mills Bennett Prod. Co.'s No. 9-B Wilburn, Henry Griffith league, 737 ft. E W line and 190 ft. S N line of lease ..... Drlg. cap rock 1,306 ft.

Humble O. & R. Co.'s No. 6-B Kirby, 593 ft. N of S line, 385 ft. E of W line of lease, or 125 ft. N and 385 ft. W of No. 5 ..... Drlg. salt 3,200 ft.

Moody Corp.'s No. 5-A E. W. Barber, 100 ft. E of W line and 70 ft. N of S line of lease ..... Drlg. salt 1,919 ft.

Moody Corp.'s No. 6-A Barber, 75 ft. W or E line and 400 ft. N of S line of lease ..... Drlg. cap rock 1,371 ft.

Sinclair Prairie Oil Co.'s No. 18-A Wilburn, Henry Griffith league, 150 ft. W of No. 17-A and 14 ft. S N line of lease ..... Top salt 1,379 ft.; drlg. salt 1,392 ft.

Sun Oil Co.'s No. 9 Chambers Co., 181 ft. W of No. 8 and 50 ft. from N line of lease ..... Drlg. salt 3,260 ft.

Sun Oil Co.'s No. 3 Higgins, 50 ft. E line and direct offset to McAlbert's No. 2 Higgins in Wm. Hodges Sur. ..... T.D. 3,231 ft.; comp. 22 bbls. 14 hrs. pumping.

Sun Oil Co.'s No. 5 Higgins, 125 ft. W of No. 4 ..... Base salt 3,698 ft.; drlg. rock and shale 3,706 ft.

Sun Oil Co.'s No. 16 Wilburn fee, 120 ft. W of No. 15 and 40 ft. from N line of 10-acre tract in William Hodges Sur. ..... Top sand 4,926 ft.; drlg. sand S.O. 4,958 ft.

Texas Co.'s No. 7 Wilburn, 116 ft. S of Humphrey's No. 8-H Kirby, in Henry Griffith League ..... T.D. 4,935 ft.; prep. to W.O.

Texas Gulf Prod. Co.'s No. 3 A. E. Barber, 400 ft. S of N line and 50 ft. E of W line of lease ..... Drlg. broken shale and lime 4,877 ft.

Texas Gulf Prod. Co.'s No. 2 Eberspacher, 480 ft. from S line and center of strip No. 4 ..... Derrick.

Texas Gulf Prod. Co.'s No. 4 Wilburn, Wm. Hodges Sur., 330 ft. N of S line, 50 ft. W of E line ..... T.D. 5,059 ft.; swabbing little oil, gas, wtr., and mud.

Yount Lee Oil Co.'s No. 24 Chambers County, 400 ft. W of No. 23 in line with No. 21 ..... T.S. 1,456 ft.; base salt 3,780 ft.; drlg. shale 3,789 ft.

Yount Lee Oil Co.'s No. 25 Chambers County, 75 ft. S, 50 ft. W of NE cor. of lease ..... Sand rock 385 ft.; standing.

Yount Lee Oil Co.'s No. 8 Phillips, Wm. Hodges Sur. .... Top sand 3,354 ft.; drlg. shale, sand and lime 4,191 ft.

BLUE RIDGE—FORT BEND COUNTY

San Jacinto Oil Co.'s No. 4 Blakley, 2,460 ft. W of E line, 190 ft. S of N line of Edwards Drew Sur. .... Pits.

RABBS RIDGE—FORT BEND COUNTY

Gulf-Humble's No. 11-A F. D. Booth, J. Rabb Sur. .... T.D. 5,355 ft.; P.B. to 5,347 ft.; W.O.C.

Gulf Prod. Co.'s No. 4 A. Hamerstrom, 2,900 ft. from N line, 4,100 ft. W of Brazos River, which is E line of Samuel Kennedy Sur. ..... Drlg. shale and lime 3,147 ft.

Humble O. & R. Co.'s No. 26-A Lockwood & Sharp, 755 ft. N and 14 ft. W of No. 26-B, in J. Rabb Sur. .... T.D. 5,265 ft.; comp. 41 bbls. hr.; ⅝-in. choke.

Humble-Gulf's No. 28-A Lockwood & Sharp, 379 ft. from S line and 2,872 ft. from E line of "A" lease in J. Rabb Sur. ..... Derrick.

Humble-Gulf's No. 29-A Lockwood & Sharp ..... Location.

Humble-Gulf's No. 28-D Lockwood & Sharp ..... Location.

Humble-Gulf's No. 11 Meyers, 410 ft. W of E line of Myer 180-ac tract and in center of tract being 292 ft. N of S line of John Rabb Sur. ..... Drlg. shale 913 ft.

Naylor's No. 4 S. B. Gehr, 1,260 ft. from W line and 320 ft. from S line of lease in Samuel Kennedy Sur. ..... T.D. 5,406 ft.; set screen; wouldn't flow; S.D.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 40 Moore ..... Drlg. sticky shale 2,599 ft.

HIGH ISLAND—GALVESTON COUNTY

Brusard & Brookner's No. 1 Nebout ..... Drlg. 299 ft.; no report.

Yount Lee Oil Co.'s No. 4 Broussary & Orme, M. Dunman Sur., 129 ft. SW of No. 3 ..... Top salt 4,565 ft.; shale and pyrite 5,358 ft.; T.D. 5,715 ft.; S.O.

Yount Lee Oil Co.'s No. 41 Cade, Fitzsimmons Sur. ..... Drlg. shale 3,120 ft.

Yount Lee Oil Co.'s No. 40 Cade, 430 ft. NW of No. 2-B, 360 ft. from E line of lease and in line with No. 39 and No. 2-B, Fitzsimmons Sur. ..... Drlg. hard shale 4,284 ft.

Yount Lee Oil Co.'s No. 22 Smith ..... Drlg. sand 4,362 ft.; no report.

Yount Lee Oil Co.'s No. 24 Smith ..... Sand 5,929 ft.; S.D.

Yount Lee Oil Co.'s No. 42 Cade, N. Fitzsimmons Sur., half way between Nos. 26 and 28 and 150 ft. E at right angles ..... Derrick.

ARRIOLA—HARDIN COUNTY

Republic-Houston's No. 2-X Arriola fee ..... T.D. 5,410 ft.; to make D.S. test.
Republic-Houston Oil Co.'s No 3 fee ..... Coring 4,115 ft.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 2 Hooks, W. Donoho Sur., 330 ft. E of CWL, Blk. 24 ..... T.D. 4,795 ft.; flowed salt water; P.B. to 4,555 ft.; tested S.W. and oil from 4,783-95 ft.; abd.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 110 Jordit, 200 ft. due S No. 109.. T.D. 1,484 ft.; swbd. SW.; to deepen.

Sinclair Oil Co.'s No. 1 Teel Estate, 3,685 ft. W of E line of league, 4,285 ft. S of N line of league, or 1,032 ft. S of N line and 717 ft. W of E line of 134-A. tract ..... Drlg. shale 4,775 ft.; no report.
Skinner Oil Co.'s No. 3 Semler ..... T.D. 2,230 ft.; lost returns; drlg. cap rock 2,180 ft.

SOUR LAKE—HARDIN COUNTY

Alpha Pet. Co.'s No. 1 J. M. Weiss, 122 ft. S of Steinberger's No. 1 Weiss in Blk. 25 ..... T.D. 6,823 ft.; drilled plugs and prep. to core.

Humble O. & R. Co.'s No. 1 Kirby et al, 140 ft. E W line and 300 ft. S N line of old Gulf 170-acre tract, S. Jackson Sur. ..... Drlg. shale 3,867 ft.
Parr et al's No. 1 Benard, in W.C.R.R. Sur. No. 69 (west edge) ..... T.D. 7,061 ft.; P.B. 4,800 ft.; making est. 25 bbls. daily.

Steinberger Pet. Co.'s No. 1 Weiss, 150 ft. W of Parr No. 1 and 50 ft. out of SE cor. of Blk. 28, E. B. Williams Sur. ..... Location.
Texas Co.'s No. 308 fee, 375 ft. S, 110 ft. E of No. 299, in Stephen Jackson League ..... T.D. 2,049 ft.; comp. 26 bbls. hr.; ⅝-in. choke.

Yount Lee Oil Co.'s No. 6 Lynn, 260 ft. from W line and 200 ft. from N line of 43-acre tract in Sour Lake Oil Co. Sub. ..... Drlg. salt 7,520 ft.

GOOSE CREEK—HARRIS COUNTY

Edwards Drlg. Co.'s No. 2 Matthews, E offset to Mirimar's No. 2 Hughes ..... T.D. 4,566 ft.; prep. to swab.
Herring's No. 1 Williams, 150 ft. from SE cor. and 55 ft. NE of Hybush's No. 3, in W. Scott upper league.. Cellar.
Heffner & Moore's No. 1 A. A. Wright, 50 ft. N and 50 ft. E of SW cor. of Blk. 7, Wm. Scott Sur., Abst. No. 65 ..... T.D. 5,221 ft., shale; standing.
Humble O. & R. Co.'s No. 30 Simms-Smith ..... Drlg. shale 1,608 ft.
Humble O. & R. Co.'s No. 28 Sweet, 13 ft. W of SE cor. of Scott 2½-acre tract and 53 ft. from N line of lease, Wm. Scott Sur. No. 67 ..... Location.
Humble O. & R. Co.'s No. 29 Sweet, 418 ft. from N line of Sweet lease and 33.8 ft. E of SW cor. of Hanzen's 1-ac. tract in Wm. Scott Sur. ..... Drlg. hard sand 3,017 ft.
Jay Simmons' No. 1 Dannebaum, 45 ft. from S and 50 ft. from E lines of lease in W. Scott Labor Sur. ... Derrick.

HUMBLE—HARRIS COUNTY

Imperator Oil Co.'s No. 1 N. N. Lee, 400 ft. from E and 150 ft. from N line of 88-ac. tract, in E. Ruhl Sur. ..... Drlg. gumbo 500 ft.
Rio Bravo Oil Corp.'s No. 4 fee, 250 ft. E, 100 ft. S of No. 3 fee ..... Drlg. shale 4,242 ft.
Texas Co.'s No. 47 Stevenson, J. B. Stevenson Sur., 359 ft. E, 457 ft. S of NW cor., Lot 1-A ..... T.D. 5,338 ft.; sidetracking 4,595 ft.

PIERCE JUNCTION—HARRIS COUNTY

Benedum & Trees' No. 1 W. J. Settegast, 3,629 ft. from S line of Sur., and 100 ft. from E line of tract in the J. Kopman Sur. ..... Rigging up.
Gulf Prod. Co.'s No. 10 H. C. Cain, 399 ft. S and 290 ft. E of NW cor. of lease and 217 ft. N of No. 9, 160-acre tract in J. Hamilton Sur. No. 879 ..... Drlg. hard shale and lime 3,070 ft.

Hamil & Smith's No. 1 Gulf fee, 54 ft. from N cor. of Lot No. 24, and 413 ft. from W line of No. 24, on line between Lots 22 and 24, in W. H. Tores Subd., B.B.&C. Sur. No. A-179 ..... Rigging up.
Rio Bravo Oil Corp.'s No. 9-A Settegast, 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur... T.D. 4,510 ft.; rigging up to work over; standing.

Rio Bravo Oil Corp.'s No. 12-A Settegast, 1,410 ft. N line, 650 ft. E line, J. A. Kopman Sur. ..... T.D. 5,423 ft.; milling 4,337 ft.

TOMBALL—HARRIS COUNTY

Amerada-Rycade's No. 1-A Metzler, J. House Sur. .... Derrick.
Amerada-Stanolind's No. 1 F. Hirsch ..... Bldg. derrick.
Amerada-Stanolind Oil Co.'s No. 4 Rudel, 500 ft. from S line and 500 ft. from W line of tract in J. House Sur. ..... Drlg. sand 5,575 ft.
Houston Oil Co.'s No. 1 Fred Heard, 335 ft. from N line and 691 ft. from E line of lease in J. M. Hooper Sur. ..... Drlg. 3,080 ft.
Humble-Magnolia's No. 2 C. F. W. Hendricks, 966 ft. S of N line and 466 ft. W of E line of 96-A. tract in Wm. Heard Sur. ..... Spud.
Humble-Magnolia's No. 1 Krug, 600 ft. N and 187 ft. E from SW cor. of J. F. W. Kobe 30.6-acre tract in J. H. Edwards Sur. ..... Location.
Humble-Magnolia's No. 2 Krug, 466 ft. from E line of lease and 800 ft. S of S line of Sherer 112-acre tract in J. H. Edwards Sur. ..... Location.
Humble and Magnolia Pet. Co.'s No. 3 B. J. Petrich, 700 ft. S of N line, 1,171 ft. W of E line of lease in J. M. Hooper Sur. No. A-372 ..... Derrick.
Humble & Magnolia's No. 2 Rudel-Oster, 150 ft. S of Amerada & Stanolind's No. 3 Fletcher, half way between E and W lines of 50-acre tract in J. House Sur. No. 34 ..... T.D. 5,575 ft.; W.O.C.
Humble O. & R. Co.'s No. 3-B M. A. Quilter, 466 ft. from N line and 330 ft. from W line of most northerly NW cor. of 300-ac. "B" lease ..... Drlg. shale 2,820 ft.
Humble O. & R. Co.'s No. 1 F. Theis, 550 ft. from S line and 584 ft. from E line of 175-ac. tract in C. N. Pillot Sur. ..... Drlg. shale 2,183 ft.
Humble O. & R. Co.'s No. 1 Werner ..... Drlg. shale 5,611 ft.
J. E. Mabee's No. 1 W. W. Baker, 440 ft. S of C of N line of 80-acre lease in J. House Sur. ..... T.D. 5,577 ft.; comp. 48 bbls. hr.; ¼-in. choke.

Sun and Humble O. & R. Co.'s No. 1 Metzler, 34 ft. N and E of NE cor. of 2-acre graveyard in 90-acre lease in C. N. Pillot Sur. No. 632 ..... Drlg. shale 949 ft.
Texas Co.'s No. 2 R. W. Hirsch, 100 ft. from N line and 364 ft. from W line of 57-ac. lease in J. House Sur. ..... Drlg. sticky shale 5,500 ft.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 3 Davis, 400 ft. N of No. 2, Joseph Kokernut Sur. ..... Location.
General Crude Oil Co.'s No. 4 Davis, 400 ft. N of No. 3, Joseph Kokernut Sur. ..... Location.
General Crude Oil Co.'s No. 12 Moore's Bluff, 2,100 ft. S of N line and 2,932 ft. W of E line of survey and tract, Moore's Bluff lease ..... Drlg. shale 2,900 ft.
General Crude Oil Co.'s No. 8 Davis, 660 ft. from S and 1,000 ft. from E line of lease in D. Kokernut Sur.... Drlg. 2,356 ft.

HANKAMER—LIBERTY COUNTY

George Devore et al's No. 1, SE Exell, 175 ft. S of Gulf's No. 1 and 165 ft. from E line of 175-ac. lease in Levi Barrow Sur. ..... Derrick.
Mirimar Oil Co.'s No. 2 Crow & Jacobs, H.&T.C. Sur. No. 31 ..... Drlg. hard sand 3,852 ft.

HULL—LIBERTY COUNTY

Gulf Prod. Co.'s No. 104 Phoenix, 2,479 ft. from W line and 1,115 ft. from S line of 300-ac. tract, in J. Devore Sur. ..... Drlg. rock 425 ft.

Flynn's No. 1 Flynn, J. Devore Sur. ..... T.D. 1,500 ft.; S.D.
Gulf Prod. Co.'s No. 102 Phoenix ..... Drlg. shale 3,994 ft.
Hanna Oil Co.'s No. 1-B Hanna, 50 ft. E line and 533 ft. S line of 20-ac. lease in J. Devore Sur. ..... Drlg. 300 ft.
Republic Prod. Co.'s No. 153 Dolbear, 400 ft. N and 45 deg. E from No. 151, in the J. Devore Sur. .... Drlg. shale and hard sand, show oil, 5,292 ft.
Republic Prod. Co.'s No. 155 Dolbear ..... Rigging up.
Republic Prod. Co.'s No. 154 Dolbear, 285 ft. NW of No. 152 and in line with No. 140 and 280 ft. SW of No. 74 ..... T.D. 2,111 ft.; putting on pump.
Sun Oil Co.'s No. 7-A Carr, 200 ft. W of E line and 277f t. S of N line of lease ..... T.D. 5,185 ft.; set creen; flowing by heads.

Texas Co.'s No. 7 Barrow fee, 458 ft. S and 350 ft. W of NE cor. of tract in J. Devore league ..... Reaming 5,200 ft.; T.D.; P.B. to 5,003 ft.; 1,600 ft. fluid in hole; est. 200 bbls. day on pump.

LIBERTY COUNTY

Mrs. I. M. Lemon Oil Co.'s No. 1 Richardson, 120 ft. E of Gulf & Humble's No. 1 Carter, in M. G. White Sur. ..... T.D. 3,882 ft.; rerun tubing, standing.

MARKHAM—MATAGORDA COUNTY

Hamil and Powers' No 4 Myers, 150 ft. from N, 225 ft. NW of No. 1, in Wm. Hadden Sur. ..... Drlg. sand 3,536 ft.
Hawkins Oil Co.'s No. 1 Hawks fee, 1,350 ft. from N line and 1,650 ft. from E line of 20-ac. lease ..... Rigging up.
Powers Prod. Co.'s No. 3 N. R. Meyers, 100 ft. from N and 150 ft. E of SE¼ of Blk. No. 1 ..... Derrick.
Rio Bravo Oil Co.'s No. 1 Sisk, 550 ft. N, 650 ft. W. SE cor. of R. J. Sisk's 158-ac. tract in Lot 2, Wm. Haddon League ..... Drlg. clay 300 ft.

CONROE—MONTGOMERY COUNTY

American Liberty Oil Co.'s No. 2 Allen ..... Drlg. shale 836 ft.
Brown and Wheeler's No. 1 Walters ..... T.D. 5,100 ft.; setting screen.
Gulf Coast Drlg. & Prod. Co.'s No. 27 Keystone Mills .. T.D. 5,039 ft.; W.O.C.
Gulf Coast Drlg. & Prod. Co.'s No. 2 J. L. Hensley .... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 3 E. E. Hensley .... Rigging up.
Humble O. & R. Co.'s No. 1 Cameron ..... T.D. 5,127 ft.; W.O.C.
Humble O. & R. Co.'s No. 25 Keystone Mills ..... Drlg. shale 5,042 ft.
Humble O. & R. Co.'s No. 39 Madeley ..... Drlg. shale 4,746 ft.
Humble O. & R. Co.'s No. 66-A South Texas Dev. Co. .T.D. 5,187 ft.; W.O.C.
Humble O. & R. Co.'s No. 68-A South Tex. Dev. Co. .T.D. 5,183 ft.; W.O.C.
Humble O. & R. Co.'s No. 8-D South Texas ..... Drlg. 5,712 ft.
Pine Tree Oil Co.'s No. 1 South Texas ..... Shale 5,182 ft.; W.O.C.
Showers & Moncrief's No. 3 B. Dunn ..... T.D. 5,095 ft.; W.O.C.
Strake Oil Co.'s No. 3 Hammond ..... Rigging up.
Sun Oil Co.'s No. 14 Keystone Mills, 1,760 ft. from N line, 2,274 ft. from W line of lease in A. Steele Sur... Drlg. shale and lime 2,615 ft.
Tide Water Oil Co.'s No. 1 Eichletz-McKibben, 592 ft. from N line and 19 ft. from E line, which is Tide Water's W line on the Eichletz lease, in L. Smith Sur. ..... T.D. 5,075 ft.; W.O.C.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 2 Orange Natl. Bank, Jacob Beaumont Sur., 1,538 ft. W and 200 ft. S of NE cor. of lease .. T.D. 7,268 ft.; P.B. to 3,828 ft.; comp. 20 bbls. day on pump.
Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur. ..... T.D. 6,708 ft.; prep. to set whipstock and sidetrack at 5,000 ft.; pulling tubing to reset.

LIVINGSTON—POLK COUNTY

Gem Oil Co.'s No. 1 Davis Holmes, 350 ft. N and E from most northerly SE cor. of A. E. Munson tract in A. Viesca Sur. ..... Killed well; will deepen.
H. B. Owenby's No. 1 Duff, 78 ft. N of S line, 656 ft. W of E line of lease in A. Viesca Sur. ..... T.D. 4,350 ft.; S.D.
Werby et al's No. 1 Dick and Failing, 1,421 ft. W of E line and 330 ft. N of S line of tract in A. Viesca Sur. ..... T.D. 4,342 ft.; D.S. test 4,317-42 ft.; 15 min.; ¾-in. choke top and bottom; 20 fourbles oil, 2 fourbles mud cut with oil and fresh wtr.; 250 lbs. pressure.

GRETA—REFUGIO COUNTY

Atlantic and Stanolind's No. 64 J. M. O'Brien, 466 ft. E line of lease and 933 ft. N of Winfield Sur. No. 63 Derrick.
Atlantic & Stanolind's No. 6-A J. J. O'Brien, Ximines Sur. ..... T.D. 5,929 ft.; comp. 325 bbls. dly.
Fioboots Oil Co.'s No. 2-D J. M. O'Brien, E. H. Winfield Sur., 466 ft. S N line and midway E and W lines, Blk. 12 ..... Drlg. shale 4,364 ft.
Fioboots Oil Co.'s No. 2-E J. M. O'Brien, E. H. Winfield Sur., 466 ft. S N line and midway E and W lines, Blk. 10 ..... T.D. 4,382 ft.; testing.
Fioboots Oil Co.'s No. 3-F O'Brien, Peoples Sur., 466 ft. S N line and midway E and W lines, Blk. 8 ..... Drlg. 4,379 ft.
Fioboots Oil Co.'s No. 4-C J. M. O'Brien, 503 ft. from E line and 466 ft. from S line of Blk. 8, Peoples Sur... W.O.C.; T. D. 4,384 ft.
Hewitt & Dougherty's No. 7 Lambert, 466 ft from S line and 503 ft. from E line of Lot 5, Hardwick Sur.. T.D. 2,945 ft.; junked and abd.
Hewitt & Dougherty's No. 23 M. F. Lambert 466 ft. from S line and 507 ft. from E line of Blk. 16, Hardwick Sur. ..... Drlg. shale 1,611 ft.
Houston Oil Co.'s No. 14 W. J. Heard, 550 ft. NW of No. 5, and 330 ft. NE of SW line of lease ..... T.D. 4,950 ft.; W.O.C.
Houston Oil Co.'s No. 15 Rooke, 160 ft. S along E line along NE cor., 150 ft. W at right angles..... T.D. 4,940 ft.; comp. 225 bbls. day.
Humble O. & R. Co.'s No. 5 Fannie Heard, 1,490 ft. from S line, 450 ft. from W line of 337-ac. tract in Crunk Sur. ..... Drlg. 2,910 ft.
Humble O. & R. Co.'s No. 4 Fannie Heard, 1,216 ft. from E line, 466 ft. from N line of lease in Ximines Sur. ..... T.D. 5,775 ft.; P.B. to 4,401 ft.
Humble O. & R. Co.'s No. 6 J. F. B. Heard ..... T.D. 4,382 ft.; W.O.C.
Humble O. & R. Co.'s No. 7 J. F. B. Heard, 1,107 ft. N of No. 7 and 466 ft. from W line of 500-ac. lease in Peoples Sur. ..... Drlg. 2,431 ft.
Humble O. & R. Co.'s No. 8 J. F. B. Heard, 933 ft. N of No. 6 and 933 ft. E of No. 3, in Peoples Sur. .... Location.
Stanolind Oil & Gas Co.'s No. 3-A J. M. O'Brien, Peoples Sur., begin at NE cor. of "A" lease, thence W along N line 1,599 ft., thence S at right angles 466 ft., S offset to No. 4-B ..... S.D. 4,384 ft.
United Prod. Co.'s No. 15 Fox, 330 ft. W of No. 3-A in Wm. Hews and L. Brown Sur. ..... Drlg. 5,785 ft.
United Prod. Co.'s No. 14 W. J. Fox et al, 466 ft. from N line and 1,060 ft. W of No. 11 on 848-acre tract in Wm. Hews and L. Brown Sur. ..... T.D. 5,965 ft.; S.D.
United Prod. Co.'s No. 8 Lambert ..... T.D. 4,371 ft.; swbng.
United Prod. Co.'s No. 9 Lambert, 466 ft. S line and 507 ft. E line of Blk. 17, H.&D. Subd. of Hardwick Sur., Abst. 159 ..... Drlg. 4,390 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 3 Schermer, N. Clay Sur., 330 ft. NW, 330 ft. SW line of lease ..... Drlg. hard sand 4,638 ft.
Sun Oil Co.'s No. 5 Schlettman ..... T.D. 1,340 ft.; bringing in.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 3 State ..... T.D. 6,002 ft.; W.O.C.
Shell Pet. Corp.'s No. 18 Watkins ..... Building derrick.
Shell Pet. Corp.'s No. 19 Watkins fee, 1,260 ft. S, 2,185 ft. W of NE cor. Sec. 18-12-12 ..... Rigging up.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Humble O. & R. Co.'s No. 1 Joseph Berb, located on 100-acre tract lease in Section 21-8s-3e, about a mile and a half NW of the producer ..... Location.

Shell Pet. Corp.'s No. 1 R. M. Eliaboutrout, in Section 23-8s-3e. 1½ mile due N of discovery well.....Location.
Standard Oil Co. of Kans.' No. 1 Joseph Mouton .....T.D. 1,395 ft.; W.O.C.
Superior Oil Co.'s No. 1 J. Sidney Arceneaux et al, 1,665 ft. N and 439 ft. W of SE cor. of Sec. 28-8s-3e .....Drlg. sand 7,695 ft.
Superior Oil Co.'s No. 1 U. T. Iseringhauser, 1,381 ft. E and 502 ft. S of NW cor. of Sec. 35-8s-3e .....T.D. 7,853 ft.; made 677 bbls. in 20 hrs.; 16/64-in. choke; tubing pressure 2,425 lbs.; csg. pressure 2,300 lbs.; 38.2 gravity.
Superior Oil Co.'s No. 1 Leo E. Kahan et al, 2,381 ft. N and 468 ft. W of SE cor. of Sec. 33-8s-3e .....T.D. 6,898 ft.; P.B. to 1,451 ft.; sidetracking 2,280 ft.
Superior Oil Co.'s No. 1 Elize Mire, 890 ft. S and 597 ft. W of NE cor. of Sec. 33-8s-3e .....Coring 7,868 ft.
Superior Oil Co.'s No. 1 Louanstie Richard, 2,878 ft. S and 465 ft. W of NE cor. of Sec. 34-8s-3e .....Drlg. sandy lime 7,562 ft.
Superior Oil Co.'s No. 1 Marcellus Savoie, 2,201 ft. S and 761 ft. W of NE cor. of Sec. 27-8s-3e .....Drlg. shale 6,818 ft.

CAILLOU ISLAND—TERREBONNE PARISH

Texas Co.'s No. 12 State Caillou Island, 2,420 ft. E and 73 ft. S of NW cor. of Sec. 20-23s-20e .....Derrick.
Texas Co.'s No. 13 State Caillou Island, 500 ft. SW of No. 11 well .....Drlg. sand 3,970 ft.; no report.

CALCASIEU LAKE—CAMERON PARISH

Texas Co.'s No. 10-A State, 16,855 ft. W and 3,270 ft. N of NE cor. Sec. 1-14s-9w in Twp. 13s-9w .....Drlg. shale 5,860 ft.

CAMERON MEADOWS—CAMERON PARISH

Burton-Sutton Oil Co.'s No. 4 School Land, 2,891 ft. W and 150 N of SE cor. of Sec. 16-4s-13w .....Derrick.
Humble O. & R. Co.'s No. 3 Cameron Meadows, 2,895 ft. W, 150 ft. S of NW cor. Sec. 21-14s-13w .....Drlg. hard sand 4,505 ft.
Humble O. & R. Co.'s No. 1-B Cameron Meadows, 250 ft. W and 2,640 ft. S of NE cor. of Sec. 24-14s-14w...Drlg. shale 4,808 ft.
Texas Co.'s No. 1 Miami Corp. .....Drlg. shale 4,792 ft.; no report.

CHOCTAW FIELD—IBERVILLE PARISH

Standard Oil Co.' of Louisiana's No. 6 Myrtle Grove Wilbert, Sec. 52-9s-11e .....Drlg. shale 3,029 ft.

EDGERLY—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Hunter, 1,366 ft. N, 425 ft. W of SE cor. SW Sec. 21-9s-11w .....Rigging up.

FOUR ISLAND—TERREBONNE PARISH

Texas Co.'s No. 6 State, Four Island .....Dredging canal.
Texas Co.'s No. 7 State, Four Island .....Dredging canal.

GARDEN ISLAND—PLAQUEMINES PARISH

Texas Co.'s No. 11 Garden Island, 4,191 ft. S and 1,504 ft. W of NE cor. Sec. 107-23s-32e .....T.D. 1,675 ft.; bailing.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6 Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w .....T.D. 7,669 ft.; prep. to set 7⅝-in. csg.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 2 Hanszen, 400 ft. W and 200 ft. S of No. 1 in Sec. 14-12s-10w .....T.D. 6,462 ft.; standing.
H. E. Dawton's No. 1 Kaugh .....Derrick.
Gulf Prod. Co.'s No. 14-A Irwin, 300 ft. SE of No. 13-A ..T.D. 6,853 ft.; flowed 1 hr. and went dead.
Wilfred LaHay's No. 1 Roux, Sec. 36-12s-10w .....Shale 3,986 ft.; no report.
Sutton Oil Co.'s No. 1 Portier, 2,930 ft. W and 1,220 ft. N of SE cor. of Sec. 22-12s-10w .....Rigging up.
Texas Co.'s No. 12-B State, 500 ft. SE of No. 10-B or 1,360 ft. E and 149 ft. S of NE cor. of Sec. 13-12s-10w .....Derrick.
Union Sulphur Co.'s No. 1 Barbee est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 12-12s-10w .....T.D. 7,986 ft.; sidetracking 6,-500 ft.
Union Sulphur Co.'s No. 9 Humble, 300 ft. E and slightly N of No. 1 well, or 330 ft. N and 270 tf. E of the SW cor. of Sec. 12-12s-10w .....Drlg. shale and lime 5,810 ft.
Yount Lee Oil Co.'s No. 11 Gulf Land, Sec. 14-12s-10w ..T.D. 7,044 ft.; sidetracked to 6,-090 ft.; tested S.W.; pulling tubing.
Yount Lee Oil Co.'s No. 14 Gulf Land .....Drlg. salt 5,250 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 2 Caffal .....Drlg. sandy lime 5,676 ft.
Barnsdall Oil Co.'s No. 6 Fontenot, 330 ft. from N and W lines of lease in Sec. 7-9s-6w .....Drlg. shale and lime 5,534 ft.
Magnolia Pet. Co.'s No. 2 Gillison, 990 ft. W and 200 ft. N of SE cor. of lease in Sec. 12-9s-7w .....Drlg. sandy shale 5,640 ft.
Magnolia Pet. Co.'s No. 7 Walt .....Drlg. shale 3,985 ft.
Shell Pet. Corp.'s No. 2 Ardoin .....T.D. 7,337 ft.; P.B. to 7,020 ft.; prep. to reset screen 7,022 ft.
Shell Pet. Corp.'s No. 3 Heyd, 265 ft. N, 330 ft. W of SE cor. NE Sec. 13-9s-7w .....T.D. 5,539 ft.; prep. to deepen.
Shell Pet. Corp.'s No. 8 Heyd .....Coring 6,869 ft.
Shell Pet. Co.'s No. 9 Heyd, 998 ft. W and 330 ft. S of NE cor. of 320-acre lease .....T.D. 6,961 ft.; W.O.C.
Shell Pet. Co.'s No. 4 E. D. Stafford, 990 ft. S and 330 ft. W of NE cor. of lease .....T.D. 6,655 ft.; comp. 921 bbls. day; 17/64-in. choke to 22/64-in. chokes; tubing pressure 1,260 lbs.; csg. pressure 1,225 lbs.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 14 Housierre-Latrielle, 260 ft. N of No. 13, Sec. 47-9s-2w .....Drlg. gumbo 950 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E., 4,543 ft. S, 503 ft. W of NW cor. Sec. 30-21s-20 .....T.D. 3,690 ft.; S.D.
Texas Co.'s No. 11 L.L.&E., Sec. 30-21s-20e .....Drlg. sand 2,179 ft.
Texas Co.'s No. 24 Lake Barre .....Drlg. anhydrite 3,423 ft.
Texas Co.'s No. 28-D State Lake Barre, 300 ft. SW from No. 27 in Sec. 40-21s-19w .....Drlg. 3,873 ft.; no report.

LAKE PELTO—TERREBONNE PARISH

Texas Co.'s No. 11 Lake Pelto, 1,600 ft. SW of No. 5....Drlg. shale 3,550 ft.
Whitstone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E, of NW cor. SW SW Sec. 35-19s-16e .....T.D. 2,070 ft.; washing.

LEESVILLE—LAFOURCHE PARISH

Ben Coil and Texas Co.'s No. 1 LaFourche .....T.D. 5,800 ft.; T.A.
Emerald Pet. Corp.'s No. 4 State of Louisiana .....Rigging up.
Emerald Pet. Corp., No. 5 State of La., 1,878 ft. N of No. 1 well in Sec. 26-21s-22e .....Rigging up.
Emerald Pet. Corp.'s No. 7 State of Louisiana, 1,078 feet N of No. 1 .....Location.
Emerald Pet. Corp.'s No. 8 State of Louisiana, 455 ft. N of No. 1 .....Derrick.
Emerald Pet. Corp.'s No. 9 State of Louisiana, 600 ft. S of No. 1 .....Derrick.
Gulf Prod. Co.'s No. 1 Allen Land Co., 600 ft. N, 50 ft. W of W bank of Bayou LaFourche, in Sec. 26-21s-22e (W.O.) .....Drlg. 3,734 ft.
Frank L. Hill's No. 1 Bernard, 1,422 ft. N and 808 ft. E of SW cor. Sec. 26-21s-22e .....Drlg. shale 2,000 ft.
Lincoln Oil Co.'s No. 1 Constantine .....T.D. 3,826 ft.; W.O.C.
Texas Co.'s No. 16 L.L.&E. .....Drlg. cap rock 4,510 ft.
Texas Co.'s No. 17 L.L.&E., 1,821 ft. S and 122 ft. E of NW cor. of Sec. 27-21s-22e .....Drlg. wtr. sand 4,257 ft.
Texas Co.'s No. 19 L.L.&E., Sec. 27-21s-22e .....Rigging up.
Texas Co's No 20 L.L.&E., Sec. 27-21s-22e .....Derrick.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet Co.'s No. 12 Bordages, 966 ft. W and 93 ft. N of SE cor. N½ NE Sec. 3-10s-9w .....Derrick.
Magnolia Pet. Co.'s No. 26 Miller, 480 ft. S, 780 ft. E NW cor. SW¼ NW¼ Sec 9 .....T.D. 4,388 ft.; prep. to reset screen.
Magnolia Pet. Co.'s No. 24 Miller, Sec. 9-10s-9w .....Derrick.
Strake Oil Co.'s No. 1 Miller, 500 ft. due N of Yount Lee's No. 1 Miller, Sec. 9-10s-9w .....T.D. 6,740 ft.; abd.
Union Sulphur Co.'s No. 1 Farquahar, 200 ft. S and W lines, NE cor. SW SE Sec. 36-13s-10w, 2-ac tract ..T.D. 7,468 ft.; sidetracking 4,-020 ft.
Union Sulphur Co.'s No. 6 Moss, between Nos. 2 and No. 5 .....Drlg. hard shale 5,998 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 6 Wilson-Cochran .....Drlg. sandy shale 3,002 ft.
Texas Co.'s No. 17 Botney Bay, 1,800 ft. S a deg. W., 600 ft. N 82 deg. most southern NE 560 deg. tract, Sec. 4-6s-5e .....Sand 3,332 ft.; running screen.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 26 United Land .....Drlg. shale 4,375 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 35 Lutcher Moore, Sec. 19-9s-8w ...Drlg. gumbo 2,119 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 776 fee .....Coring sand 4,548 ft.
Union Sulphur Co.'s No. 788 fee, 602 ft. S, 1,209 ft. W of C Sec. 29-9s-10w .....T.D. 6,103 ft.; drlg. 4,991 ft.
Union Sulphur Co.'s No. 794 fee .....T.D. 5,087 ft.; washing.
Union Sulphur Co.'s No. 795 fee .....Location.
Union Sulphur Co.'s No. 796 fee .....T.D. 2,144 ft.; washing.
Union Sulphur Co.'s No. 797 Fee, 1,682 ft. W, 418 ft. N of Center of Sec. 29-9s-10w .....Drlg. 2,410 ft.
Union Sulphur Co.'s No. 798 Fee, 673 ft. N, 575 ft. W of center of Sec. 29-9s-10w .....Drlg. 2,210 ft.
Union Sulphur Co.'s No. 799 fee .....Drlg. wtr. sand 2,718 ft.; no report.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 300 ft. S of No. 11, in line with Nos. 9 and 10, Sec. 12-13-3w ... ...T.D. 7,439 ft.; prep. to start up.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 72 G. N. G., 642 ft. E, 50 ft. S, NW cor. NE SE Sec. 33-10s-12w .....T.D. 3,276 ft.; hard shale; washing to bottom.
Tri-Oil Co.'s No. 1 Matilda Gray, 33 ft. W, 35 ft. N. of SE cor. NE SW NE Sec. 33-9s-12w .....T.D. 3,535 ft.; prep. to deepen
Wilson Broach Co.'s No. 11 Wilson strip (workover).....Sand 3,557 ft.; S.D. orders.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 9 Wilburn .....Pits.

MISCELLANEOUS WILDCATS

TEXAS

ANGELINA COUNTY

Thayer et al's No. 1 Dearmond, J. T. Peavy Sur., 2⅛ miles SE of Zavalla .....Hard lime 1,915 ft.; T.D.; F.A.

BRAZORIA COUNTY

Amerada Pet. Corp.s No. 1 Houston Farm Dev. Co., 1,414 ft. N, 316 ft. W of SE cor. of L. Batcheldor Sur. .....Drlg. shale 1,500 ft.
C. & R. Dev. Co.'s No. 1 National Life Co., 340 ft. from W line and 340 ft. from N line of 100-acre tract out of W end Nos. 3 and 4 in Henry Austin League No. 4, Abst. No. 13 .....Rigging up; S.D.
Jack Clark, tr's No 1 J. M. Spear, 150 ft. from N line and 150 ft. from W line of Lot No. 4, in Pickney Sur. .....Drlg. wtr. sand 2,500 ft.
Danciger O. & R. Co.'s No. 3-A Hunt, 2,100 ft. from E, 2,000 ft. from S lines of Hunt's 1,000-ac. tract in W. C. Carson Sur. .....T.D. 6,797 ft.; P.B. 1,172 ft.; S.D.
Danciger Oil & Ref. Co.'s No. 1 Stark-Brown, 330 ft. out of most easterly NE cor. of lease in Perry & Austin Sur. .....Drlg. shale 5,257 ft.
Gillock Pet. Co.'s No. 1 Frank Truksa, 200 ft. from S, and 1,000 ft. from E lines of 75-ac. tract, Sec. 7, H.T.&B.R.R. Sur. .....Derrick.
Holt et al's No. 1 Griffith, J. B. Bailey Sur. .....T.D. 4,250 ft.; waiting orders.

BRAZOS COUNTY

M. S. Broach's No. 1 Buck Wallace, 1,000 ft. from S line, 400 ft. from W line of 251-ac. tract in G. W. Singleton Sur. .....S.D. 410 ft.
H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isaack Curil Sur. .....Cmtd. surface csg. 30 ft.
F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line .....T.D. 2,500 ft.; fighting gas.
D. W. Young, Jr.'s (H. L. Bleam) No. 1 Harrison, 300 ft. from S and W lines of lease in J. D. Allcorne Sur. .....Spudded and S.D.

BURLESON COUNTY

Southern Seaboard Co.'s No. 1 J. H. Coulter, 9,400 ft. from SW line and 2,200 ft. from NW line of 1,176-acre tract in SE cor. of County in A. Kennon Sur...Derrick.

CALHOUN COUNTY

Continental Oil Co.'s No. 1 American Nat. Realty Co., C of NE of Sec. 6, Blk. C .....Drlg. shale 4,820 ft.
Herman Heep's No. 3 Welder .....Location.
Herman Heep Oil Co.'s No. 1-B F. Welder .....Drlg. 5,506 ft.
J. H. Meek et al's No. 1 R. Adamans, C of NW line of Sec. 45, 2½ miles NE of McCamey .....Spud.

CHAMBERS COUNTY

John H. Carreker's No. 1 B. Weaver, 404 ft. out of SE cor. of lease in A. Weaver Sur. .....T.D. 2,550 ft.; tearing down rig.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Nelson, 3,200 ft. SE of NW cor. of section, 2,200 ft. SW at right angles in I.&G.N. Sur. .....T.D. 4,052 ft.; R.U. and S.D.
Union Central Oil Co.'s No. 1 Mann, 620 ft. from W line and 330 ft. from N line of 20-acre tract in J. L. Dugat Sur. .....Location.

FAYETTE COUNTY

Colorado Oil Co.'s No. 1 Anders .....T.D. 2,820 ft.; S.D.

FORT BEND COUNTY

Gem Oil Co.'s No. 1 Farmer, 330 ft. out of NE cor. of Robt. Hodges Sur., on 200-ac. tract .....Set surface csg. 517 ft.
Mills Bennett's No. 1 Luschner, 3,720 ft. from N line of survey and 550 ft. from W line of lease, in T. Habermachner Sur. .....Coring 4,121 ft.
Joe Moffat's No. 1 Blakly, 100 ft. from N and W lines of Lot 4, Block C .....T.D. 517 ft.; S.D.
J. E. Selber's No. 1 J. B. Farmer, 150 ft. out of most southerly cor. of 50-ac. tract in Jas. Scott Sur. ...Drlg. sand rock 3,316 ft.
W. A. Shafer et al's No. 1 V. B. Bortash, 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur. .....Moving in material.
Vico Oil Co.'s No. 1 H. R. Darst, 5,690 ft. N of S line and 685 ft. W of E line of E. Powell Sur. ....Derrick.
Wilks et al's No. 1 Norris, 300 ft. W and 1,352 ft. S of N cor. of 525-ac. tract (5 miles S of Needville) ..Rigging up.

GALVESTON COUNTY

George K. Spoor's No. 1 Maco Stewart, 1,626 ft. N of SE cor. of Alex Farmer Sur. and 1,175 ft. E in W. K. Wilson Sur. (4 miles S of Dickinson) .....T.D. 6,577 ft.; reinforcing derrick.
Humble O. & R. Co.'s No. 1 Maco Stewart, C of E and W lines of 400-acre tract in John Sellars Sur., S of Dickinson Bayou, 3 miles N of Spoor well .....Sidetracking 4,487 ft.

GRIMES COUNTY

W. D. Roan et al's No. 1 D. C. Kelly, 1,532 ft. from N line and 168 ft. from E line of U. Sanders Sur., near Carlos .....Rigging up.
J. H. Woodward et al's No. 1 O. A. Hamilton, center of Hamilton 95.5-ac. tract S of Richards in the O. Hill Sur. .....Location.

HARDIN COUNTY

Wilcox Oil & Gas Co.'s No. 1 Sternberger, 1,328 ft. N of S line and 1,311 ft. W of E line of C. Dorsey Sur. No. 1 .....Drlg. shale 4,044 ft.

HARRIS COUNTY

Emerald Pet. Co.'s No. 1 Griffith .....Drlg. sticky shale and lime 4,-027 ft.
C. C. Foster and others' No. 1 H. K. Johnson, 2,000 ft. from S line and center of E and W lines of G.C.&S.F. Sur. .....Spud and S.D.

General Crude Oil Co.'s No. 1 Rorick, est. 5,606 ft. S of N line of survey and 1,546 ft. W of E line of 1,426-acre tract in John C. Ogburn Sur. ..... Set surface csg. 750 ft.
H. H. Givans' No. 1 F. B. Bender, 2,640 ft. from S line and 4,800 ft. from E line of Geo. Fisher Sur. ..... S.D. at 335 ft.
Imperator Oil Co.'s No. 1 Brooks Est., 7,400 ft. S and W of NE cor. of R. & R. Vince Sur. ..... Rigging up.
J. E. Seiber's No. 1 Tyrell & Gareth, 2,800 ft. from E line and 2,400 ft. from N line of survey, Lot 16, Blk. 20, Highland Subd., Ashbell Smith Sur. ..... T.D. 6,960 ft.; abd.
Loring Oil Co.'s No. 1 Westmoreland, Lot 3, Blk. 33, Westmoreland Addition ..... Drlg. 5,220 ft.
W. U. Paul's No. 1 E. M. House, 2,300 ft. N and 1,000 ft. E of NE cor. of E. Benson Sur. in M. Magruder Sur. ..... Set 10-in. at 1,000 ft ; S.D.
Southland Oil Co.'s No. 1 Galvey, SE cor. Sec. 4, Blk. 1, H.&T.C. Sur. ..... Drlg. shale 335 ft.

JACKSON COUNTY

Encio Gas Co.'s No. 1 J. H. Drummond, 330 ft. out of most easterly NE cor. of Drummond 499-ac. tract .. Set surface csg. 1,150 ft.
Encio Gas Co.'s No. 1 Siedel & Simmons, 150 ft. from SW line or 300 ft. NE at right angles from No. 1 Toney, in Raymond Musquiz Sur. ..... T.D. 5,581 ft.; tested S.W.; P.B. to 5,250 ft.; waiting orders.
Imperator Oil Co.'s No. 1 Dutton, S center of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Muskins Sur. ..... Derrick.
Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50 acres of Miller 100-ac. tract in Ray Musquiz Sur. ..... Location.

JEFFERSON COUNTY

Gulf Prod. Co.'s No. 3 L. W. Junker, 700 ft. W. 350 ft. S of NE cor. of 260-ac. tract in W. H. Smith League Drlg. rock 3,555 ft.
Magnolia Pet. Co.'s No. 1 E. Herbert Trust, 990 ft. N, 330 ft. E of SW cor. of P. H. Bell Sur, No. 2 ..... Location.
Sun Oil Co.'s No. 1 H. Long, 1,500 ft. N line, 990 ft. E line of lease ..... T.D. 7,138 ft.; reaming 6,484 ft.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No. 4 ..... Location.
Extension Oil Co.'s No. 1 J. A. Lovett, 200 ft. from E and 600 ft. from S line of lease, P. P. Deevers Sur... Drlg. hard sand 2,632 ft.
Gulf Prod. Co.'s No. 2 Kirby, John Pleasants Sur., 1,866 ft. S of No. 1 ..... Hard shale 8,734 ft.; P.B. to 5,300 ft.; T.D. 5,893 ft.; 200 bbls. fluid, 6 hrs.; 40 bbls. of which was oil; made 800 bbls. in 24 hrs., 60% S.W.
Gulf Prod. Co.'s No. 4-C Kirby, 1,700 ft. due W of No. 1 discovery well in John Pleasant Sur. ..... T.D. 5,861 ft.; W.O.C.
Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 3,550 varas from E line and 500 varas from N line of Samuel Strong Sur. ..... Drlg. shale 1,672 ft.
A. L. Maxwell's No. 1 M. D. Hinciliff, 300 ft. from E line and 1,000 ft. from N line of H.&T.C. Sur. No. 150 ..... Location.
Thomas et al's No. 1-A Eicke, 660 ft. from W line and 2,350 ft. from S line of tract in Green Sur. ..... T.D. 5,058 ft.; D.S. test 5,025 ft. ¼-in. choke, 5 min., 8 thribbles mud; S.D. orders.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Robbins ..... Drlg. shale 3,926 ft.
Dr. Griffith's No. 1 fee, 3,000 ft. from N line and 3,000 ft. from W line of Wm. E. Bell Sur. ..... Rigged up and drlg. wtr. well.
United North & South Dev. Co.'s No. 1 Unit 4, Buckeye farm, J. C. Keller league, 314 ft. N line and 202 ft. E line of lease ..... T.D. 7,880 ft.; fishing.
United North & South Dev. Co.'s No. 1 Unit No. 58, 250 ft. N and 300 ft. W of SE cor. of Unit No. 58 .. Rigging up.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. ..... Whipstocked and drilled to 4,750 ft.; D.S. test in 10 min.; built up 50 lbs. pressure and showed 1 joint oil and mud and 30 thribbles S.W.; old T.D. 4,921 ft.; P.B. 4,853 ft.; W.O.C.
Brown & Wheeler et al's No. 1 Jones, 440 ft. out of NW cor. of S 175 acres of 350-ac. tract ..... Location.
Deering & Frazier's No. 1 L. Hicks, T. Taylor Sur., 660 ft. S and W of NE cor. of 565-acre tract ..... Drlg. shale 5,330 ft.
Humble O. & R. Co.'s No. 1 Anna M. Piatte, 466 ft. S and 1,100 ft. W of NE cor. of 100-ac. tract in Wm. Barker Sur. ..... Rigging up.
Sayre Oil Co.'s No. 1 Delta Land & Lbr. Co., 330 ft. out of NE cor. of J. Truitt Sur. ..... Location.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line and 150 ft. from NE line of Godwin 20-acre tract ..... S.D. 1,400 ft.
Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 68, 10,500 ft. E at R/A .... T.D. 5,055 ft.; S.D.

POLK COUNTY

Howard Dailey et al's No. 1 Z. B. Knox, 1,450 ft. W and 1,920 ft. S of NE cor. of F. Chairs Sur., 1½ mile NE of Corrigan ..... Spud and S.D.

REFUGIO COUNTY

Cox et al's No. 1 F. W. Bissett, J. Crockett Sur. ..... T.D. 5,775 ft.; no report.
Heard-Holland Oil Co.'s No. 1 Peck, 366 ft. N and W out of NW and SW of Bonnie View Subd. ..... T.D. 5,351 ft.; D.S. test 5,330-37 ft., 11 mins., 400 lbs. pressure, ¼-in. choke top and 5/16-in. choke on bottom; D.S. test 5,-337-51 ft. showed 220 lbs. pressure 11 mins., and 100 ft. mud cut with gasoline and some fresh wtr.; prep. to set 7⅝-in. csg. at 5,320 ft.
G. Jeffries' No. 1 James F. Power, 759 ft. from N and 1,812 ft. from E lines of 500-acre lease in J. J. Garza and J. Vidaurri Sur. ..... T.D. 4,523 ft.; S.D.
Neural-Baymore's No. 2 E. Heard, Ximines Sur. ..... Coring 5,947 ft.
Quintiana's No. 1 Thos. O'Connor, 8 miles NE of town of Refugio and 3 miles SE of Greta Field ..... T.D. 5,575 ft.; S.L.M. sand 5,569-75 ft.; on 5-hr. test showed an average of 545 bbls. per day; ⅝-in. choke; 400 lbs. tubing pressure; 850 lbs. csg. pressure.
Standard Oil Co. of Kansas' No. 1 Thos. O'Connor, Crunk Sur. ..... Top sand 5,938 ft.; T.D. 5,947 ft.; comp. 12 bbls. hr.; 3/16-in. choke.

SAN AUGUSTINE COUNTY

Fidelity Exploration Co.'s No. 1 Bryan & Flourney, 1,926 ft. from N and 725 ft. from E lines of Sec. 14, S.P.R.R. Sur. ..... T.D. 2,005 ft.; S.D.; moving in heavy rig to drill to Woodbine.

SAN JACINTO COUNTY

Darby Jones' No. 1 McBee ..... T.D. 2,985 ft.; S.D.
Phillips Pet. Co.'s No. 1 Foster Lbr. Co., 330 ft. out of NE cor. of Geo. Taylor Sur. ..... Drlg. 4,190 ft.
Turnbull & Irwin's No. 1 Peoples State Bank, 1,360 ft. E of SW cor. of Peoples State Bank fee in L. D. Martines Sur. ..... Coring 4,536 ft.

TRINITY COUNTY

Tom Smith et al's No. 1 Oliver Moody, 1,352 ft. from S line, 500 ft. from E line of 50-ac. tract in E. Roberts Sur. ..... Location.

TYLER COUNTY

Boone-Wallace & Lane's No. 1 Cruse ..... T.D. 3,108 ft.; S.D.

VICTORIA COUNTY

John F. Camp's No. 1 Zimmer, 330 ft. from SE and NE lines of SW 58.5-ac. tract of Zimmer 117-ac. lease in R. Manchola Sur. ..... Rigging up.
Gulf Prod. Co.'s No. 6 Keeran, begin at intersection of R.R. and SW line of survey, thence NE along R.R. 6,257 ft., thence NW at r/a 2,539 ft. in the M. De Leon Sur. ..... Drlg. gray shale 2,782 ft.
Humble O. & R. Co.'s No. 1 McFadden est., 2,000 ft. S 15 deg. W of Lion O. & R. Co.'s No. 1 McFadden in C. O. Edwards Sur. ..... Spud.
Humble O. & R. Co.'s No. 1 Mitchell, 1,401 ft. from NE and NW lines of 5,000-acre tract in E. Benavides Sur. ..... T.D. 6,005 ft.; abd.
Humble O & R. Co.'s No. 2 Mitchell, 6,500 ft. NW line, 7,000 ft. from SW line of Mitchell 5,000-ac. tract .. Pita.
Humble's No. 1 Agnes Murphy, begin NE cor. of survey thence SW along SE line 33,900 ft., thence NW 3,600 ft. at R/A in C. De LaGarza Sur., Abst. 46 ..... Drlg. sand 2,937 ft.
Quintana Oil Co.'s No. 1 McCormic, 500 ft. SW line, 500 ft. NW line of survey in most westerly NW cor. S.A.&M.G. Sur. No. 3 ..... T.D. 7,400 ft.; to comp. as gasser.
Texas Co.'s No. 2 McFaddin, 9,150 ft. S and 200 ft. E at right angles out of NW cor. of C. M. B. Hoyt Sur. ..... Drlg. shale 3,400 ft.

WALLER COUNTY

L. W. Capps and C. J. Sloan's No. 1 Vaughn, 1,300 ft. N of Kirby's No. 1 Vaughn, J. MacFarland Sur. No. 46 ..... T.D. 2,924 ft.; S.D.

WHARTON COUNTY

Pure Oil Co.'s No. 2 Wallace Houston, 1,511 ft. SW, 466 ft. SE of N cor. of Wallace Houston 160-ac. tract, in the T. W. Heard Sur. No. 28, Abst. 509.... T.D. 5,144 ft.; comp. 79 bbls. net oil first 11 hrs.; ⅝-in. choke; 490 lbs. tubing pressure.
Pure Oil Co.'s No. 2 Chas. T. Kountze, 2,310 ft. at R/A from NW line and 990 ft. at R/A from SW line of 280-ac. tract in Morris & Cummings Sur. No. 19.. Drlg. shale 1,575 ft.
Pure Oil Co.'s No. 2 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres ..... T. D. 8,236. ft.; washing.

SOUTH LOUISIANA

ACADIA PARISH

Edwards Drlg. Co.'s No. 1 Daigle, NE cor. of SE of Sec. 24-7s-1e ..... Coring 4,765 ft.
Rhodes Drlg. Co.'s No. 1 Latrell ..... S.D. 2,280 ft.

AVOYELLES PARISH

Hass & Stokes' No. 1 Hass, from NE cor. SE Sec. 28 go along E line of Sec. 28 2,486 ft. to point on highway, thence 84° E on highway for 386 ft., thence N 87° E for 4,426 ft., then N 45° E 226 ft.... Rigging up and S.D.

BEAUREGARD PARISH

Federal Pet. Co.'s No. 1 Lutcher-Moore, 467 ft. S and 467 ft. E of the NW cor. of Sec. 4-6-12 ..... Drlg. 7,780 ft.
Federal Pet. Co.'s No. 1-B Lutcher Moore, 6 miles NW of No. 1 Lutcher Moore and near Fields ..... Rig up.
F. W. Martin's No. 1 J. E. Cochran, SE cor. of NE of Sec. 34-4s-12w (W part of county and 6 miles S of Merryville) ..... T.D. 6,268 ft.; S.D. for fuel.

CALCASIEU PARISH

Fred Oil Co.'s No. 1 Faisst, 566 ft. N, 300 ft. W of SE cor. of NW of SE Sec. 26-3s-10w ..... T.D. 3,005 ft.; S.D.
Steinberger Pet. Co.'s No. 1 Drew, 330 ft. out of NW cor. of NE¼ of Sec. 26-10s-11w, 6½ miles SW of Sulphur ..... Location.
Union Sulphur Co.'s No. 2 Barbe, 379 ft. S and 350 ft. W of NE cor. of SE of Sec. 11-9s-8w ..... Drlg. shale 5,872 ft.

CAMERON PARISH

Southern Sulphur Oil Corp.'s No. 1 Gulf of Mexico, near the mouth of the Calcasieu River ..... Drlg. gumbo 3,230 ft.; no report.

IBERIA PARISH

Diamond Corp's No. 1 Edmond Viator, 1,908 ft. E and 450 ft. from SW cor. of Sec. 41-12s5e ..... Derrick.
T. D. Spell's No. 1 Bernard, 5,138 ft. SW cor. along western boundary line, then in NE direction 1,140 ft. along N line of Bernard land, 53 ft. S of well in Sec. 54-12s-7e ..... T.D. 3,826 ft.; flowed first day 576 bbls., 25% wash wtr. through ⅝-in. choke; 400 lbs. pressure.

IBERVILLE PARISH

Gross Pet.'s No. 1 Angelloz ..... T.D. 2,270 ft.; W.O.C.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Devilbiss, 1,399 ft. W, 466 ft. S of NE cor. Sec. 14-9s-4w ..... Drlg. shale 3,111 ft.
Humble O. & R. Co.'s No. 1 Martin Kratzer, 400 ft. out of SE cor. 120-ac. tract, Sec. 14-9s-4w ..... Rigging up.
Shell Pet. Corp.'s No. 1 Jernigan, 330 ft. E, 660 ft. S, NW cor. Sec. 12-9s-4w ..... Drlg. sand and shale 4,880 ft
Tide Water Oil Co.'s No. 1 Mrs. A. Bourgeosis, 350 ft. E and 205 ft. S of C of Sec. 28-9s-5w ..... T.D. 5,213 ft.; P.B. to 4,108 ft.; 5,314 ft.; coring ahead; gas sand 5,302-11 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 2 Harang Plantation ..... T.D. 7,216 ft.; S.D.
R. L. Gay, trustee's No. 1 Godchaux, 3,920 ft. N and 1,746 ft. E in common cor. of Lots 34 and 26, Twp. 15s-19e ..... Drlg. shale 2,916 ft.
Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 990 ft. E of NW cor. of Lot 7, thence 250 ft. S of Sec. 26-21s-22e ..... Spudded and S.D.

PLAQUEMINES PARISH

Southern Sulphur Oil Co.'s No. 1 Bay Adams, 2,325 ft. W and 826 ft. S of NE cor. of Sec. 23-20s-28e ..... T.D. 725 ft.; S.D.
Venice Corp.'s No. 1 Burras ..... Drlg. gumbo 882 ft.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 836 ft. N, 2,193 ft. W of SE cor. Sec. 135-14s-14e ..... Location.
Joe Danciger's No. 1 Delacroix Land Fur Co., 2,442 ft. W and 660 ft. N of SE cor. of Sec. 127-14s-14e ..... Rigging up.
Southern Sulphur Oil Co.'s No. 1 State-Lake Borgne, 850 ft. N and 230 ft. E of SE cor. of Sec. 33-12s-15e ..... Drlg. sand and shale 2,722 ft
Southern Sulphur Corp.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e ..... Shale 2,751 ft.; no report.

ST. LANDRY PARISH

Bailey Gaunce's No. 1 Lewis, 300 ft. N and E of SW cor. of NW of NE of Section 29-5s-6e (workover) ... T.D. 5,017 ft.; S.D.
H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-6e ..... S.D. 3,696 ft.; abd.

ST. MARTIN PARISH

Texas Co.'s No. 6 St. Martin Land Co., 660 ft. S and 500 ft. W of NE cor. SE Sec. 17-8s-7 ..... Drlg. shale 7,170 ft.

ST. MARYS PARISH

Black et al and Edwards Drlg. Co.'s No. 1 Chetimancha, Sec. 34-13s-9e, 219-acre tract approximately 500 ft. at right angles SE and SW lines of tract ..... T.D. 6,501 ft.; S.D.

TERREBONNE PARISH

Texas Co.'s No. 1-B State-Bay Junop, 2,200 ft. N, 950 ft. E of SW cor. Sec. 27-21s-14e ..... T.D. 7,375 ft.; prep. to abd.
Texas Co.'s No. 3 School Board, 2,630 ft. S and 1,384 ft. E of NW cor. of Sec. 16-22s-18w ..... Rigging up.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 32-11s-3e ..... Location.

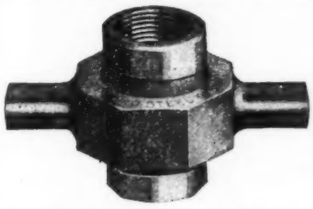
VERNON PARISH

Anderson & Kerr Drlg. Co.'s No. 1 Nona Mills, 330 ft. S and W of NE cor. of Sec. 25-2n-9w ..... Drlg. shale 2,435 ft.
Robt. K. Williams, Jr.'s No. 1 Llano Del Rio, 1,185 ft. S, 1,000 ft. W of NE cor Sec. 7-1n-9w ..... Rigged up and S.D

NEW AND IMPROVED EQUIPMENT

Youngstown Forged Steel Union Made for Hard Use

The forged steel unions made by the Youngstown Steel Products Co., Chicago, have steel-to-steel seats with extra heavy udylited nuts. They are for 2,000 pounds cold working pressure and 1,000° F. on 600 pounds working pressure. The following is a partial list of the uses for which this union is designed: Ammonia and all refrigeration work; chemicals, acids and process lines; hot oils, hot gases and gasoline; superheated steam, air and water. The efficiency of this



union is not affected by vibration or shock, according to the manufacturers. The extra heavy udylited nut guards against nut distortion, nut threads fusing, freezing or rusting together.

Youngstown's forged steel unions are forged from a high quality forging steel refined in the company's own steel mills. They are finished with watch-like precision on Bullard multomatic machines. The seats are machined and then rolled to a plate glass finish to insure perfect seats. The entire line is furnished with extra heavy nuts which are rust proofed with udylite cadmium. The deposit of cadmium on the nut threads prevents the rusting or galding of nut threads with female end threads. These unions can be taken apart with ease.

New Braided Slings Have Flexibility and Strength

Patented multiple part construction of new braided slings introduced by the Macwhyte Co., Kenosha, Wis., is said to give them the flexibility of chain, the strength and long life of wire rope. They are light in weight, easy to handle and have a high safety factor, all features which speed up material handling.

These braided slings are available in two types: (1) "Atlas" slings, which are made of two endless elements of wire rope, spirally interwoven the full length. They are nonkinking and will not spin. Their extreme flexibility permits them to take the contour of the load with full grippage before the lifting power is applied. (2) "Drew" slings, with a flat belt-like surface, also made of an endless element, especially adapted to any loads requiring a wide, flat surface.

WEIGHT INDICATOR USED

Of interest in connection with the G. P. Berry well is the fact that the standard weight indicator has been used to accomplish control of weight on the bit from start to finish. When the Martin-Decker Corp. first offered this instrument to the oil industry, drillers were skeptical, and it was sometimes a job to get a weight indicator and a driller on the rig at the same time. Martin-Decker recently has combined its pioneer weight indicator with its mud pump gauge, a torque gauge and a rotary table tachometer and is marketing the new combined drilling control instrument under the name of the "Quintuplex." Drillers who have used the new instrument say it really provides a central control board for a drilling rig.

Notes About Trade Literature

The Garrison Engineering Corp., 307 Fifth Avenue, New York, is sending on request a 12-page booklet on DuGas dry chemical fire extinguishing apparatus and systems.

—

A new bulletin on aerated type cooling towers has been issued by the Fluor Corp. of Los Angeles, Calif. It illustrates the latest Fluor installations and describes in detail the construction, methods of water distribution and design features.

—

B. D. Tillinghast, 172 South McDonald Street, McDonald, Pa., has issued a loose-leaf illustrated catalog of oil country machinery manufactured in his plant. The book shows the Tillinghast gas cyinder and pulley outfits, the new improved compressor, horizontal gas pump, beam gas pump, standing valve puller, and gas engine lubricator and igniting tubes. It is sent to interested inquirers.

—

"Why do two oils having the same viscosity at 210° F. behave so differently?" is answered in a bulletin explaining the Adher-o-scope, sent on request by Sperry Products, Inc., Manhattan Bridge Plaza, Brooklyn, N. Y.

—

An unusual piece of literature sent on request is the 12-inch cutout replica of a Jenkins standard iron body gate valve prepared by Jenkins Brothers, 80 White Street, New York. This cut-out is next best to having the real Jenkins gate for inspection, as it provides an exact reproduction of both the exterior and the mechanism of a big, heavy Jenkins valve.

—

A new 80-page reference book on "How to Select Insulated Cable" has been published by the General Electric Co. Designated as GEA-1837, the publication covers cable for the transmission and distribution of electric power at normal frequencies.

—

The Acheson Colloids Corp. of Port Huron, Mich., has available for distribution Technical Bulletin No. J182, "Concerning the Use of Colloidal-Graphited Lubricants in Ball Bearings."

—

Tag thermostatic steam traps are described in a bulletin issued by the C. J. Tagliabue Co., Park and Nostrand Avenues, Brooklyn, N. Y.

—

Ingersoll-Rand, 11 Broadway, New York, is sending on request a 16-page booklet giving detailed information concerning the Cameron motorpump, designed for general service.

—

The full line of "Caterpillar" leaning wheel graders is pictured and described in a new 32-page catalog, obtainable from "Caterpillar" dealers or direct from the Caterpillar Tractor Co., Peoria, Ill.

—

An eight-page bulletin devoted to the Taylor "Fulscope" recording regulators may be obtained from the Taylor Instrument Companies, Rochester, N. Y.

Vessel Carries Big Hose Shipment for Iraq Pipe Line

When the SS Exocherda of the American Export Lines sailed recently from Boston she had in her hold one of the largest, if not the largest, shipments of oil suction and discharge hose ever manufactured in this country. The shipment comprised 60 30-foot lengths of 10-inch I.D. hose and 50 30-foot lengths of 8-inch I.D. hose, each length equipped with nipples and flanges, and the value of the 110 lengths was more than $40,000.

The hose, destined for use in connection with the new oil pipe line, 1,180 miles, in ancient Iraq, was made by the Boston Woven Hose & Rubber Co. at its plant in Cambridge, Mass., and is known as sea-loading hose. The function of the hose is to connect the ends of the pipe line at the Mediterranean shore with tank vessels anchored at the harbor so that the tankers may be pumped full of oil to be conveyed to the refineries.

An idea of the size of this shipment may be obtained from the weight of the hose. Each 30-foot length of 8-inch hose weighs 867 pounds and the 10-inch hose weighs 1,167 pounds per length. The nipples and flanges alone weigh more than 300 pounds each. The weight of the entire shipment is 207,000 pounds and in its manufacture required 21 tons of rubber, 8 tons of cotton, and 23 tons of metal.

Men Well Known in the Equipment Field

HARRY C. YARBROUGH

Harry C. Yarbrough, well known in the oil equipment field, has announced the termination of his connection with the firm of Yowell & Yarbrough, Inc., and the establishment of his offices at 724 Bartlett Building, Seventh and Spring Streets, Los Angeles.

In the near future, Mr. Yarbrough says, he will offer to the petroleum industry several modern tools, through a sales and service organization now being formed.

New Portable Acetylene Generator Is Announced

The Linde Air Products Co., 30 East Forty-second Street, New York, has just announced the Oxweld type MP-4 portable acetylene generator, intended for portable service only, and specially designed to withstand the abuse encountered in such service, particularly in overland pipe construction. Having a carbide capacity of 150 pounds, it will be of service wherever large scale welding operations must be carried out in the field.

The capacity of this new generator is 150 pounds of ¼"x1/12" (quarter size) carbide. The generator is rated to produce 300 cubic feet of acetylene per hour. It weighs 750 pounds empty, is 87 inches over all in height and 42¾ inches in diameter. Fully charged, the generator weighs 2,250 pounds.

The feed is of the gravity type. The feed control unit is selfcontained and is bolted to the inside of the carbide hopper. The feed valve unit is actuated by a diaphragm. Pressure on the diaphragm is exerted by a housed and loaded spring unit. The spring is encased in a small housing and set at the factory to deliver about 13 pounds per square inch pressure. This can be changed within a range of about 2 pounds per square inch by an external adjustment. The set pressure feature does away with the necessity of setting the pressure when the machine is started.

At all rates of generation the pressure variation within the generator is not more than three-fourths pound per square inch. This slight variation is removed by means of a new type of regulator designed for this particular job. This regulator, Oxweld Type R-56, is a large unit built into the generator.

La.-Ark. Wildcats

(Continued from Page 67)

Zeiger & Bacon's No. 1 Crossett, 400 ft. N. 300 ft. W, SE cor. Sec. 41-23-4e.
Coring 2,880 ft.

NATCHITOCHES PARISH

Jack Let's No. 1 Brown Lbr. Co., 400 ft. S. 300 ft. E, NW cor. NE SW Sec. 27-9-13.
Set 10-in. 21 ft.
Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
Drlg. 1,033 ft.
Penn Sou. Pet. Co., Inc.'s No. 1 Chopin Lbr. Co., 275 ft. N and W, SE cor. NE SW Sec. 4-5n-6w.
Dry and abd. 3,525 ft.
Plummer & McDaniel's No. 1 Walmsley, SE SW Sec. 45-10n-3w.
Drlg. 4,350 ft.
Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, SW cor. Sec. 28-9-10.
Coring 2,260 ft.
J. B. Storey's No. 1 W. W. Page est., NE cor. SE NW Sec. 18-5-9.
S.D. for rig repair 1,480 ft.

OUACHITA PARISH

Ark.-La. P. L. Co.'s No. 10 Rea-Green, 1,775 ft. W, 35 ft. N, SE cor. SW Sec. 33-19-4e.
Set 12½-in. 108 ft.; drlg. 1,205 ft.
Carbons Consolidated's No. 4 Cole, 662 ft. S, 1,969 ft. W, NE cor. Sec. 36-20-4e.
Tested S.W. 2,304 ft.

RED RIVER PARISH

Louis L. Glass' No. 1 Dickson, 400 ft. S and W, NE cor. NW SE Sec. 32-12-8.
Set 12½-in. 84 ft.; drlg. 400 ft.
Kincaid & Kelly's No. 1 Ober, 315 ft. N, 257 ft. W, SE cor. NW SE Sec. 5-14-10.
Drlg. 1,565 ft.
A. D. Mytiler's No. 1 La. Delta Pecan Co., 1,700 ft. N, 160 ft. E, SW cor. Sec. 27-13-11.
S.D. 857 ft.
Oynett et al's No. 1 Thomas, 330 ft. S and E, C Sec. 34-13-8.
S.D. for fuel 740 ft.
W. K. Williams' No. 1 DeMoss Est., 900 ft. S, 330 ft. W, NE cor. Sec. 33-13-11.
Rigging up.

SABINE PARISH

J. F. Anderson's No. 1 Burkett, 125 ft. N, 655 ft. E, SW cor. NW Sec. 10-9-13.
W.O.S.R. 1,993 ft.
R. B. Campbell et al's No. 1 Cook Land Co., 150 ft. N, 300 ft. W, SE cor. NW NW Sec. 35-10-12.
W.O. csg. 1,586 ft.
G. H. Collins' No. 1 Bellieu & Carter, 320 ft. S and W, NE cor. NW SW Sec. 21-9-13.
Testing 1,980 ft.
Florence Oil Co.'s No. 1 McDonald, 330 ft. S and E, C Sec. 16-9-13
Used acid 1,993 ft.
De Generes et al's No. 3 Crawford, 330 ft. N and E, SW cor. NW NE Sec. 20-9-13.
Tested S.O.; S.D. 1,690 ft.
Graham & Dalton's No. 1 Burkett, 330 ft. N and W of C Sec. 16-9-13.
Set 10-in. 42 ft.; drlg. 1,450 ft.
Earl P. Halliburton's No. 1 Paul, 330 ft. S and E, NW cor. SW SW Sec. 21-9-13.
Set 6-in. 1,544 ft.
Helena O. & G. Co.'s No. 6 Burkett, 330 ft. S and E, NW cor. NE Sec. 10-9-13.
Tested dry 1,989 ft.
Lamson-Leavell & Bryant's No. 1 Bank of Pleasant Hill, Sec. 29-9-13.
Swbng. to test, 2,000 ft.
Zan Lloyd's No. 1 Henderson, 330 ft. N and W, C Sec. 29-9-13.
W.O.S.R. 2,031 ft.
Dr. O. B. Hicks' No. 1 Neal, SE SW SE Sec. 18-9-12.
Set 10-in. 40 ft.
Geo. L. Pace's No. 2 DeSoto Corp., 1,080 ft. S, 990 ft. W, NE cor. SE Sec. 27-10-13.
Drlg. 1,500 ft.
L. L. Posey's No. 3 Burkett, 330 ft. S and E, NW cor. NE NW Sec. 10-9-13.
W.O.S.R. 1,984 ft.
W. H. Rowe et al's No. 1 Craig, 330 ft. S and E of C Sec. 22-9-13.
S.D. 1,200 ft.
J. A. Stinson's No. 1 Whitney Corp., 330 ft. S and W, NE cor. Sec. 5-9-13.
W.O.S.R. 2,014 ft.
Stumpff & McFall's No. 1 Paul estate, Sec. 16-9-13.
Tested S.W.; S.O. 1,976 ft.

RAPIDES PARISH

Ben Banner's No. 1 Bentley Lbr. Co., 2,640 ft. E, NW cor. Sec. 11-4n-5w.
S.D. for wtr. 2,296 ft.
Evans & Collingsworth's No. 1 Hickman, 330 ft. S and E, NW cor. Sec. 40-4-1e.
S.D. 2,130 ft.

VERNON PARISH

Anderson & Kerr Drlg. Co.'s No. 1 Nona Mills, 330 ft. S and W, NE cor. NW SE Sec. 25-2n-9w.
Drlg. 3,760 ft.

WEBSTER PARISH

Abney Oil Corp.'s No. 3 Slack, 660 ft. N, 575 ft. W, SE cor. NE SE Sec. 36-23-11.
Rigging up.

WINN PARISH

Red River Ref. Co.'s No. 1 Tremont Lbr. Co., 150 ft. N and W, SE cor. NE NE Sec. 35-11-1w.
Set 10-in. 63 ft.; drlg. 355 ft.

ARKANSAS

CALHOUN COUNTY

Mid-American Oil Corp.'s No. 1 Plunkett, 660 ft. S, 440 ft. E, NW cor. NW SW.
Dry and abd. 3,004 ft.

COLUMBIA COUNTY

O. F. Whittaker's No. 1 Hall, C SE NE Sec. 10-16-20.
Set 6-in. 2,102 ft.; T.D. 2,104 ft.

CONWAY COUNTY

Sou. Union Gas Co.'s No. 1 Feldman, C SW SW Sec. 6-5n-17w.
S.D. 3,100 ft.

HEMPSTEAD COUNTY

Ark. Drlg. Co.'s No. 1 Jones, 1,000 ft. S, 660 ft. W, NE SE Sec. 11-14-24.
Moving in rig.

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26
S.D. 1,992 ft.

LAFAYETTE COUNTY

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-23.
Drlg. 2,080 ft..
Earl F. Fox's No. 1 Coleman Bros., 330 ft. N and W, SE cor. NW NE Sec. 36-16-25.
Rigging up.
C. V. Lenz' No. 1 Foster, 330 ft. S, 150 ft. E, C Sec. 9-15-25.
S.D. 2,820 ft.

LEE COUNTY

Ark.-La. P. L. Co.'s No. 1 McDonald, 1,500 ft. N, 370 ft. E, SW cor. Sec. 28-1n-4e.
Coring 2,232 ft.

MILLER COUNTY

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.
King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28.
S.D. 2,000 ft.
W. F. Lacey's No. 1 Gibson, 330 ft. S and E, NW cor. SW NW Sec. 30-19-27.
S.D. 3,348 ft.
Magnolia Pet. Co.'s No. 3 Olivet, 250 ft. S, 160 ft. E, NW cor. NE NE Sec. 4-16-26.
Tested S.W. 2,959 ft. (corrected).
C. E. Murdock's No. 2 E. L. Beck, 330 ft. N and W, SE cor. Sec. 33-15-26.
W.O.S.R. 2,923 ft.
Oil Well Oil Corp.'s No. 1 Dodd, 300 ft. S, 200 ft. E, NW cor. SW NE Sec. 10-19-28.
S.D. 52 ft.
Lee Timberlake et al's No. 1 E. L. Beck, 150 ft. N and E, SW cor. NW SE Sec. 33-15-26.
Drlg. 2,875 ft.
John Wrather's No. 1 Olivet, 309 ft. S, 150 ft. E. NW cor. NE.
W.O.S.R. 2,937 ft.
E. L. Young, tr.'s No. 1 Patterson, SE cor. SE NE Sec. 5-19-28.
Csg. collapsed 2,406 ft.; T.D. 3,655 ft.

OUACHITA COUNTY

F. A. Book et al's No. 1 Arnold, Sec. 24-15-16.
Drlg. 1,795 ft.
L. L. McDonald's No. 1 Arnold & Doyle, 150 ft. N and W, SE cor. NE SW Sec. 23-15-16.
W.O.S.R. 2,121 ft.
J. D. Reynolds' No. 1 Guttry, 452 ft. S, 150 ft. W, NE cor. NE SW Sec. 21-15-19.
Set 6-in. 1,503 ft.

UNION COUNTY

Alexander-Head Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. S and E, NW cor. SW SW Sec. 28-19-13.
Drlg. 85 ft.
Bellevue Corp.'s No. 1 Greening, 1,650 ft. E, 330 ft. N, SW cor. SE SW Sec. 30-18-15.
Coring 2,040 ft
Mrs. R. K. Jones et al's No. 1 J. Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Coring 2,764 ft.
McCreslenn Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. N and W, SE cor. NE NW Sec. 3-18-13.
Set 10-in 145 ft.
McCreslenn Oil Co.'s No. 2 Atkins, 330 ft. S and W, NE cor. SW NE Sec. 3-18-13.
Comp. pumping 175 bbls., 3,569 ft.
Marine Oil Co.'s No. 2-B Union Saw Mill Co., 330 ft. N and E, SW cor. SW NW.
Drlg. 2,560 ft.
Tubal Pet. Co.'s No. 1 Gaddy, 340 ft. N and E, SW cor. SE NW Sec. 14-17-14.
S.D.; W.O. 3,416 ft.

MISSISSIPPI

AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 550 ft.

FRANKLIN COUNTY

E. R. Ratcliff's No. 1 Banks, SE cor. SE Sec. 20-5n-2e.
Dry and abd. 4,625 ft.

GREENE COUNTY

United Gas Public Service Co.'s No. 1 Davis, C NW Sec. 30-1n-5w.
Drlg. 7,190 ft.

ISSAQUENA COUNTY

Pelican Oil & Gasoline Co.'s No. 1 Steel Bayou Corp., 400 ft. N, 350 ft. E, SW cor. NW Sec. 14-12n-8w.
Drlg. 2,810 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 2 Watson, 520 ft. W, 200 ft. S, C Sec. 24-7n-13w.
Drlg. 1,120 ft.

SIMPSON COUNTY

Berry Corp.'s No. 2 R. T. Berry, Sec. 33-2n-4e.
Set 7-in. 2,048 ft.
Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-8w.
Reaming 560 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor. SW SE Sec. 24-2n-9e.
Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E. CWL Sec. 14-14-1e.
S.D. 3,169 ft.

La.-Ark. Proven Fields

NORTH LOUISIANA

CADDO—BLANCHARD

Producers and Pyramid O. & G. Co.'s No. 1 Hammock, 150 ft. S, 1,525 ft. W, NE cor. SE SW Sec. 3-18-16.
Set 8-in. 40 ft.; drlg. 325 ft.
Pyramid-Babare's No. 1 Hearne, 660 ft. N and E, SW cor. SE Sec. 34-19-16.
Drlg. 30 ft.

CADDO—HOSSTON

Bayou State O. & G. Co.'s No. 1 Connell, 1,900 ft. N, 1,198 ft. E, SW cor. Sec. 15-21-14.
Drlg. 670 ft.
Shore Line Oil Corp.'s No. 1 Harrell, 250 ft. N and W, SE cor. Sec. 2-22-16.
Set 10-in. 40 ft.; drlg. 760 ft.
Shore Line Oil Corp.'s No. 1-B Standard, 250 ft. N and W, SE cor. Sec. 12-21-16.
Set 10-in. 53 ft.; set 6-in. 1,035 ft.; drlg. 10,41 ft.
Shore Line Oil Corp.'s No. 1-C Standard, 250 ft. S and E, NW cor NE Sec. 18-21-15.
Drlg. 25 ft.

CADDO—RODESSA

United Gas Pub. Ser. Co.'s No. 1 Deer, 1,320 ft. N and W, SE cor. Sec. 28-23-16.
Comp. 62,500,000 ft. gas, 5,850 ft.

SABINE PARISH—ZWOLLE

Alexander & Cane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
Drlg. 1,500 ft.
Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. Sec. 28-22-16.
S.D. 750 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12.
S.D. 1,100 ft.
Foster & Hartman's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. NE Sec. 10-7-12.
Tested dry 2,696 ft.
E. D. Holcomb's No. 1 Porter, 330 ft. S, 330 ft. W, NE cor. SE Sec. 7-7-11.
W.O.S.R. 2,580 ft.
M. J. Kissick's No. 1 Sermon, 388 ft. N. 696 ft. E, SW cor. SW SE Sec. 11-4-13.
T.A. 146 ft.
H. C. Mauilding's No. 2 DeLatin, 330 ft. S and E. NW cor. NE SE Sec. 3-7-11.
Drlg. 618 ft.
Monroe Prod. Co.'s No. 7 Sabine Lbr. Co., 330 ft. N and E, SW cor. NW SE Sec. 11-7-12.
Set 10-in. 42 ft.; drlg. 2,147 ft
Geo. L. Pace's No. 2 Phillips, 330 ft. N, 80 ft. W, SE cor. Sec. 25-8-12.
Set 10-in. 61 ft.; S.D. 395 ft.
Pelican Nat. Gas Co.'s No. 14 Sabine Lbr. Co., 330 ft. N and W, SE cor. NE SW Sec. 11-7-12.
Set 10-in. 55 ft.; drlg. 1,491 ft.
Pelican Nat. Gas Co.'s No. 29 4-L Co., Sec. 29-8-11.
Dry and abd. 2,660 ft.
Pelican Nat. Gas Co.'s No. 32 La. Long Leaf, 314 ft. S, 35 ft. W, NE cor. W½ NW Sec. 31-8-11.
Dry and abd. 2,575 ft.
Tarver & Bauer's No. 1 Barthold, 330 ft. N and W, SE cor. SW SE Sec. 25-8-12.
P.B. to 2,600 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-3-12.
S.D. 1,590 ft.

EAST TEXAS (BORDER COUNTIES)

CASS COUNTY

United Gas Public Service Co.'s No. 1 Walton, John Coleman Sur.
Drlg. 4,720 ft.
R. K. Kamon et al's No. 1 Savage, Mary Patterson Sur.
S.D. 4,016 ft.

HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, E. D. Spain Sur.
P.B. to 3,524 ft.

PANOLA COUNTY

Givens & Holloway's No. 1 Wooten est., Winnie Mann Sur.
S.D. 750 ft.
R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Rigging up.

SHELBY COUNTY

Bush Oil Int.'s No. 1 Windham, W. M. Blackburn Sur.
S.D. 3,366 ft.
R. H. Davis' No. 1 Wooten est., Winnie Mann est.
Set 10-in. 60 ft.
C. E. Litchfield's No. 1 Windham, A. H. English Sur.
Dry and abd. 3,402 ft.
Cliff Stovall's No. 1 Pickering Lbr. Co., C. H. Patterson Sur.
Set 10-in. 20 ft.
Turner & Neil's No. 1 Pickering Lbr. Co., P. W. Harvey Sur.
S.D. 250 ft.

ALABAMA

CLARKE COUNTY

Magnolia Pet. Co.'s No. 1 Scotch Lbr. Co., 250 ft. N, 310 ft. E, C Sec. 17-10n-3e.
Drlg. 2,700 ft.

HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-3n-29e.
Drlg. 1,710 ft.

CLASSIFIED ADVERTISING

Royalties—Production

ROYALTIES CAREFULLY SELECTED
G. D. TERRIEN
Philcade Building. Tulsa, Okla.

PRODUCING OIL ROYALTIES
in Fractional deeds from $100 up.
John L. Dickson, Box 1113, Tulsa, Okla.

PRODUCING OIL ROYALTIES
Bought and Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
DAVID R. MITCHELL & CO.,
Established 1916.
20 BROAD ST. NEW YORK

PRODUCING Royalty — Owner will sell small interests at reasonable price. P. O. Box 35, Tulsa, Okla.

Income Producing Royalties
Mid-Continent Field
Harry A. George
Exchange Bank Bldg., Tulsa, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood. P. O. Box 2261, Tulsa, Okla.

PRODUCING ROYALTIES
for
DEALERS ONLY
A selection to meet the demands of the most exacting clientele.
CHESTER IMES
First National Bldg.
Oklahoma City, Okla.

BROKERS-SALESMAN
The scene of the next big oil boom—The Permian Basin in West Texas and New Mexico—Can supply you with drilling blocks, close in acreage to Major Oil Companies drilling blocks or choice non-producing royalties located on geophysical highs—I have my own field men covering this area. Inquiries invited.
B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

OIL REPORT SERVICE
A monthly service of Oklahoma Prorated Pools, giving Potentials, Pipe Line Runs and Allowables. Price $7.50. Clyde Kelly, 306 Petroleum Bldg., Okla. City, Ok.

Royalties—Production

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma

HIGH-CLASS royalty under and offsetting drilling wells, Kansas, Oklahoma and Texas. Also producing royalties. Wire for offerings. J. E. Perkins, P. O. Box 2151, Tulsa, Okla.

ROYALTIES wanted in the Mid-Continent field, in exchange for royalties in Texas and Oklahoma. Acre for acre given, even exchange only. Address Box G-262, The Oil and Gas Journal, Tulsa, Okla.

PRODUCING Royalties in the East Texas Field bought and sold. Frank C. Scarborough, 201 Stuckey Building, Longview, Texas.

BROKERS and Salesman wanted who can sell semi-proven leases and royalty. Adjacent to the great East Texas Fields. TEXAS WHOLESALE LEASE CO.
4148 Cole Avenue
Dallas, Texas.

Oil and Gas Royalties
Kansas-Oklahoma-Texas
L. H. Witwer
217 Cole Bldg., Tulsa, Oklahoma

TIME TO INVEST in New Mexico. Royalty, drilling blocks, land in fee for irrigation. Ranches stocked with cattle or sheep. Write J. W. Wallrich, Lovington, New Mexico.

PRODUCING OIL ROYALTIES
for dealers.
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

THE
UNITED STATES GOVERNMENT
under the new Federal Securities Law
now supervises
OIL ROYALTY SALES
by all Dealers and Brokers
Federal Rules and Regulations governing sales procedure have been promulgated effective July 1st, 1934.
Copies have been prepared and will be sent free to dealers and brokers upon request to us.
IT WAS NEVER AS IMPORTANT AS NOW FOR OUTSIDE DEALERS TO HAVE RELIABLE TULSA CONNECTIONS.
W. E. COOK
INCOME ROYALTIES, INC.
Suite 812, Palace Bldg.
Tulsa, Okla.

PRODUCING ROYALTY—Owner will sell half acres and upwards of monthly income paying royalties at reasonable prices. P. O. Box 35, Tulsa, Okla.